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Banana Culture.

By J. N. Ingram.

THE BANANA is one of the great food-producing trees of the world. It yields more food property than any other tree in the vegetable kingdom. It is one of nature's rare and valuable gifts to man. It grows in many countries, and for many ages has been highly prized by different races.

It flourishes only in the zones of the tropics and in the warm lands of the semi-tropics. As a table fruit it has no superior; as a bearer it has no equal. It does best in a rich, loamy soil, likes plenty of moisture, and flourishes in its wild state along the banks of streams and around the edges of swamps. Along the alluvial beaches of the sea it sometimes grows, the trees bordering the coasts of many sounds.

The trees grow to a hight of 15 and 20 feet, the trunks often being 10 and 12 inches thick at the ground. They taper gradually to a point, and on the top of the trunks grow the clusters of fruit. The tree first puts out its fragrant white and yellow flowers, the blossoms drop off, and then the tiny fruit appears like clusters of green firecrackers. The bananas grow until they mature, and then the great bunches of fluted fruit bend the tree almost to the ground with their weight.

The leaves are often 10 and 12 feet long and from three to four feet wide. A few of the green leaves would carpet a room, and one is ample for a table cover. The trees furnish a grateful shade in tropical countries, and the refreshing groves are valued in all hot climates almost as much for their beauty and foliage as for their food supply.

The trees are long lived; in fact, they never need to be renewed. A plantation of bananas survives long after the planter has gone to explore the tropics of Paradise. Their productive capacity is enormous. One acre of bananas will yield as much food property as 130 acres of wheat, or 45 acres of potatoes. It is a crop suited to economize land and to accommodate density of population.

The trees are set 15 and 20 feet apart. They soon throw out suckers and almost cover the ground with their growth. Each plant yields one bunch of bananas. The suckers, when the bananas are gathered, are removed to allow a new growth of fruit. The great yield and the luxuriance of the tree requires a strong soil or frequent fertilizing to maintain its prodigious bearing powers.

THE TREE IN ITS CULTIVATED STATE.

The banana grows in Florida as far north as 30° 45′ latitude. Much of the rich, damp lands around the morasses and lake shores on the south end of the peninsula are well adapted to the culture of the fruit. Owing to the large demand, the simplicity of its growth, and the profit of its production, a large number of Floridians have embarked in the cultivation of banana plantations.

The most extensive banana-producing County in the State is Polk. It has 137 acres in orchards, with 121,556 bearing trees. The second County in banana production is Dade, which has 130 acres in cultivation, with 115,440 trees. The third County is Brevard, with 130 acres and 93,008 trees. Orange County has 57 acres, with 50,616 trees. Sumpter County has 26 acres, with 23,088 trees. Citrus County has 35 acres, with 31,008 trees. The State has 655 acres in banana culture, with a total of 572,532 trees.

On the more northern banana farms in the colder Counties of Florida the groves are sheltered from the Winter winds by surrounding forests of Eucalyptus and native trees. When the banana plants are young their trunks are wrapped in the Winter season with moss as a protection against the cold. When the trees become grown they are hardier and stand the Winters better. The groves are planted on the southern slopes of the hills or in locations where they will receive the full rays of the sun.

Some growers mix their orchards with banana and orange rows, but the banana generally does the best when planted with its own kind. It is a plant of remarkable tenacity. When killed to the ground with frosts the roots the following Spring send up new shoots, which grow and produce fruit the following Summer.

THE TREE IN ITS WILD STATE.

Again, the trees will yield fruit after they have lost all of their foliage by Winter freezes. It can survive a temperature as low as 25 degrees. The largest farms are along the coast and on the Keys of the southern Counties, but a large number of Floridians who do not keep banana farms grow a few trees to supply fruit for their own use. Those who own lands around bays or hillslopes about the lakes have the largest and best groves, as the loose, loamy soil produces the greatest quantity of fruit. The trees will grow on elevated ridges and yield bananas, but the crop is not so large nor the fruit as good as that grown on moist and fertile lands.

Yet the banana is not a swamp plant, and does not do best in wet localities. While it requires plenty of moisture, it will not flourish in a lagoon or in standing water. The culture of the plants depends on the character of the land. Loose, loomy soil requires little or no cultivation, but the heavier and tight lands need to be stirred to give the roots of the trees circulation through the soil to absorb nutriment for the plants and to take up moisture for the development of the fruit. Under these conditions the lands are plowed and kept in a pulverized state.

The bananas are of different varieties, and several different species flourish in Florida. The Orinoco—El Robo—is largely grown and a vigorous plant, but the fruit loses its quality if cut green. It must be taken mellow from the tree. It cannot, therefore, be shipped abroad, and is only sold in local markets. It is used in the Florida homes, and is often cooked for the table. Cooked bananas are a very common article of diet in the tropics, and are eaten, both stewed and fried, daily in the sunny regions along the equator.

The Bacoa—Red Spanish—produces a fruit of a red color, and is a prodigious bearer, and yields bunches of great weight and length. The trees grow to considerable hight, and is the largest of the banana species. The trunk and stems are also of a crimson shade. The fruit can be shipped and is a good exporting banana. It grows best in warm climates, and will not stand Winter frosts as well as the yellow varieties.

The Golden Early—*Musa Orientum*—is a little banana, of a yellow color, imported from the Bahama Islands. The tree is of medium size, and the fruit is of excellent quality. It brings considerably more than the Orinoco species. It is a hardy plant, and the fruit ripens early.

Golden banana is another favorite from the Bahamas. The plant is of a reddish color and grows luxuriantly. The fruit is large, short, and heavy, and it is of fine quality.

The Tall French grows to a considerable hight, but is suited only to the warmer countries. The Brazil is another tall species, with excellent fruit of yellow color. The Rand is a good bearer and yields bananas of fine grade.

The Tohite is a yellow variety, which becomes dark when it is ripe. The Dwarf banana is a species of stunted growth. The trees do not attain a hight of over six and eight feet, but have large trunks and bear heavy bunches of fruit. The bunches yield from 100 to 200 bananas each. The fruit is of a superior grade and keeps well. The variety is a general favorite in southern Florida, and is extensively cultivated in the lower Counties and on the coast Keys. It is exported extensively abroad.

The Ducca banana is a Chinese variety, of a small growth, but with fruit of good flavor. The bananas are both sweet and juicy. The French Dwarf is another variety with a low tree, but is not extensively grown. The fig banana is a diminutive species that flourishes on the southern farms. The fruit is small, but of fine grade, and is very popular for the table. The Date banana is the smallest variety grown in Florida, and is not largely cultivated.

The average yield of bananas in Florida is 450 bunches per acre. The total annual product of the State is 295,425 bunches. The average price per bunch is 95 cents. The value of the annual crop of Florida bananas is $280,653.

The importations of bananas yearly into the United States are valued at $4,503,490. The yearly imports of lemons are valued at $4,039,437. The annual imports of oranges have a valuation of $1,053,549. It will be seen that the imports of bananas have a valuation of four times the value of the orange imports. They form almost one-half of the fruit imports of this Republic.

In view of the large demand for the fruit in the United States and the profit of its cultivation, the banana in Florida will increase year by year, as the population increases and the resources of the State are developed.

The "Devil's Darning Needle."

Insects are not altogether useless or noxious. The value of the silk worm and honey bee are known to all. Insects play a most important part in the fertilization of the ovules of many species of plants. There is a large class of rapacious and carnivorous insects which are in an indirect way extremely useful to all growers of plants, because they hunt out and destroy the eggs, larva, or mature forms of noxious insects.

THE DRAGON FLY.

While waging a relentless warfare upon the insects which prey upon our crops, we should spare, encourage, and protect our insect allies. These latter, as one might imagine from their predacious habits, are generally large and ferocious looking, with powerful jaws for seizing and tearing their prey. In spraying with insecticides no discrimination can be made between friendly and injurious insects, but as the friendly insects are carnivorous and do not eat the foliage they are not hurt by Paris green or London purple. They are, however, killed by the kerosene emulsion and all insecticides which kill by touch. Many farmers who have to resort to hand-picking to save their crops, finding these ferocious looking, carnivorous insects more or less abundant upon the plants, conclude that these must be the parent forms of the lice or worms which do the damage. These, then, are carefully picked off and destroyed in the belief that in this way the increase of the noxious insects may be prevented. This is a very unwise proceeding. These ferocious-looking, predacious insects are among the farmer's best friends. Where they are present in considerable numbers the further increase, if not the reduction, of the noxious insects is assured, with no great cost to the farmer.

Our cut, reproduced from the press bulletin of the North Carolina Station of the Dragon Fly, is one of these useful insects. Gerald McCarthy, the entomologist, says that the Dragon Fly, or "Devil's Darning Needle" (*Libellula trimaculata*), is our swiftest-flying insect. In the larva state it feeds upon mosquitoes; in the adult state it feeds upon many insects. It never harms human beings or animals, and it should not be persecuted.

THE WHEAT CROP.

Preparations for Sowing the Seed to Secure the Best Results on Good Soil.

GEO. T. PETTIT.

IN ORDER to make wheat growing a success, we must have, first, good wheat land; second, thorough preparation of the seed bed, and third, good, clean seed sown in the proper manner and at the proper time. These secured, we may with a good conscience trust in Providence to furnish the increase, for we are promised that seed time and harvest shall not fail. We of ourselves can do nothing, neither will nature do the work without our aid. To secure the best results, we must study nature and work hand in hand with her.

We have grown wheat on a variety of soils, but the heaviest, plumpest grain we have been able to produce was grown on heavy clay "beech and sugar" land, naturally thin, but liberally fertilized with barnyard and commercial manures. Our largest yield has, however, been grown on prairie upland, old land at that, with a light dressing of yard manure.

Men used to talk about the "inexhaustible fertility" of the Western prairies, but we hear very little about it nowadays. There are too many old fields in nearly every locality which by their decreased and decreasing productions tell us in unmistakable terms that constant subtraction with no corresponding addition of fertilizing material is bound to decrease the fertility of the soil. Our farmers, as a class, do not lack in intelligence or enterprise. They know a good thing when they see it, and they see plainly that it pays to make, save, and apply home-made fertilizers while the land is yet productive and manure-making material is abundant and cheap. Those who follow this course steadfastly will never dwindle down to "half a crop," neither will they be compelled to buy expensive commercial fertilizers to recuperate worn-out farms.

It is much easier, cheaper, and better to maintain the fertility of the soil than to restore it after the cream has been taken off. Our best farmers recognize this fact, and the well-weighted wagon wending its way from barnyard to field is no uncommon sight. The day for moving the stable away from the manure pile and burning the straw stack is forever past, because the fool notion that prairie land "don't need no manure" is a thing of the past. Manure a field to a certain line, leaving the balance without, and, as a rule, the next season's growth of wheat will show the line plainly at quite a distance and still more plainly in the half bushel.

Good judgment should be used in the application of manure. Some of us are in the habit of driving the manure wagon to the nearest part of the field, where we scatter the load as if the main object was to dispose of it as quickly and easily as possible. This is poor economy. Manure should be spread thinly and evenly, either before or after plowing. Our land, most of it already rich, does not require heavy applications, which may cause the crop to lodge and not fill well. A light dressing extending over as much surface as possible is much better. If the fertility of the soil varies in different parts of the field, it is a good plan to even it up by increasing the amount of manure on the poorer portions and decreasing on the richer ones.

The turning under of clover sod is yearly becoming more common. Clover grows here almost like a weed, but we as yet only half understand or appreciate its value as a fertilizer. Its power through the agency of minute organisms called bacteria, which inhabit the tubercles found upon the roots of leguminous plants, to appropriate the free nitrogen of the air and render it available for the use and development of subsequent crops of wheat, corn, oats, or grass, which, while they require nitrogen as one of the three most important elements necessary to their growth, lack the power to appropriate a supply directly from the inexhaustible storehouse of the atmosphere, as has heretofore been fully explained in the columns of THE AMERICAN FARMER.

A clover sod turned under soon after the removal of the crop for hay, the land then being properly fitted and sown to wheat in the Fall, makes an excellent chance for a crop, as I know by experience.

Some years since Prof. Shelton, then of the Kansas Agricultural College, made a single experiment with superphosphate on wheat, using 400 pounds per acre, which lodged the crop to such an extent that it was not at all improved by the application, and further trial was abandoned. This was an overdose for land already rich, as was shown by the immense crop of barren straw.

In the Fall of '91, thinking to test the matter ourselves on a small scale, we procured a 200-pound sack of superphosphate, which, at seeding time, was applied to a single acre. A strip on one side was left without any fertilizer, while the main portion of the field was manured. The resulting wheat crop was almost, though not quite, as good where phosphated as where manured, and much better than where nothing was used; the field averaging 27½ bushels per acre. But the story does not end here. We have just finished harvesting a fine crop of timothy and clover hay, which was fully as good and probably a little thicker and evener where phosphated than where manured.

A man of considerable experience, who helped with the hay, remarked: "It is the best first crop I ever saw." Not a very extra season for hay either, and the field has been considered the poorest on the place. This experiment was made merely to satisfy our curiosity as to the action of fertilizers of this class on prairie soil. We do not regard them as a present or future necessity, provided we practice good farming and utilize the resources at hand.

Thorough preparation of the soil before sowing is of the utmost importance. Let those who will contradict the saying that "tillage is manure." We know that thorough tillage increases crops, and this means an increased amount of manure to return to the land. The ideal seed bed is deep, fine, and compact. A rock is compact, but it lacks fineness. The particles of sand, clay, etc., which compose it are so blended together that it has become a solid mass. Burst it asunder and hard chunks result. This is not the kind of compactness required in the wheat field. We want the soil thoroughly broken to a good depth with the plow; then harrowed, dragged, rolled, disked, tramped—anything, if the ground is dry and loose, to render it fine and compact, and yet leave it in such condition that if we run a plow through the soil will be thrown out fine and mellow. The smaller we can make the particles and the closer we can bring them together without causing them to actually unite as one, the more life-giving food will the feeding rootlets come in contact with, and, owing to the increased capillary power of the soil, this will always be found moist and in a condition to be readily assimilated. We do not want to shut the doors of the soil against air and water, but many small doors are vastly better than a few large ones.

Clods are no good in the wheat field, though where the general custom is for wheat to follow oats, and the latter crop is put in without plowing, and very often before the land has become properly dried out, as is the case over much of the West, the land sometimes becomes so hard as to render the preparation of a clodless seed bed during the usual dry weather of August a practical impossibility. In such cases get the clods right up on the front seat—that is, on the surface—where they will do far less damage than if allowed to lie on the furrow bottom snugly hidden by a layer of fine soil on top.

The field referred to above was of this class, and though a portion was harrowed 10 times, yet surface clods as large as a quart cup and as hard as a bat were numerous. The best wheat grew where the biggest clods had been, because in trying to reduce them we had thoroughly compacted the soil below.

Suppose we try and find a well-prepared seed bed, and learn, if we can, what has made it so. We will dig here in the middle of the street. The soil appears to be fine, and it is certainly compact below. But, we find it not only compact but extremely hard and dry. The pick breaks it up in clods. Capillarity has been destroyed. It is too much like the rock. As this doesn't comply with the conditions, let us go over where Mr. A was plowing just after harvest. If early plowing does the business, we shall probably find there a perfect seed bed. But we are again disappointed, for the soil remains as left by the mold board. The furrows are nothing but a mass of dry earth, and though there is considerable fine soil, it is so intermixed with coarse clods that the scorching sun and wind seems to have extracted every particle of moisture. This is a poor show for wheat unless we should have good rains before seeding time, and Mr. A then jumps on the field with both feet and slams shut the wide open doors of the soil.

But there is Mr. B at work in his field. As he is a noted wheat grower, we will go over and see him and his work.

"Good morning, Mr. B. Fitting this land for wheat?"

"Yes."

"I notice the soil is fine and mellow, and yet the horses sink scarcely two inches. How did you manage to get it in this condition during such dry weather, when many farmers complain that they can scarcely plow at all?"

"Well, you know we had a good rain the first week in August, followed by several days of cool, cloudy weather, during which I had my full force out with the plows and harrows. Each evening we harrowed what had been plowed during the day, and as the weather cleared up, we harrowed every half day. Then we went over the field with the plank drag, and after the light shower of last week it was again harrowed. Now I am rolling, and though the ground looks dry, yet if you will dig your toe in the soil, you will find moisture within an inch of the surface sufficient to sprout wheat all right."

"Does this condition of the soil please you as a seed bed for wheat?"

"Exactly. It will furnish an excellent feeding ground for the young plants, enabling them to get a firm hold upon the soil and make a vigorous growth before Winter sets in. Besides, it is in the right condition to hold in suspension the moisture received from above, and also to pump moisture up from the subsoil below."

"Do you believe in early seeding?"

"I am not much of an extremist. There is in this, as in most other matters, a golden mean, which it is best to follow, as a rule. I usually drill from the 10th to the 20th of September, according to season and circumstances."

"Do you roll after drilling?"

"Never. On land which gets the 'heaves' in the Spring, the small ridges and corresponding depressions left by the drill are needed to be crumbled down by the frost, thus keeping the roots covered, as the plants are elevated by the same agency. They are also useful in holding the snow and protecting the plants from the wind."

"Does wheat turn to chess?"

"Just as readily as corn turns to beans. I sow good, clean seed on good, clean land, and reap a good, clean crop."

"Well, we must be going. Thank you, Mr. B, for the information you have given us. By the way, that is a mighty good team you have there."

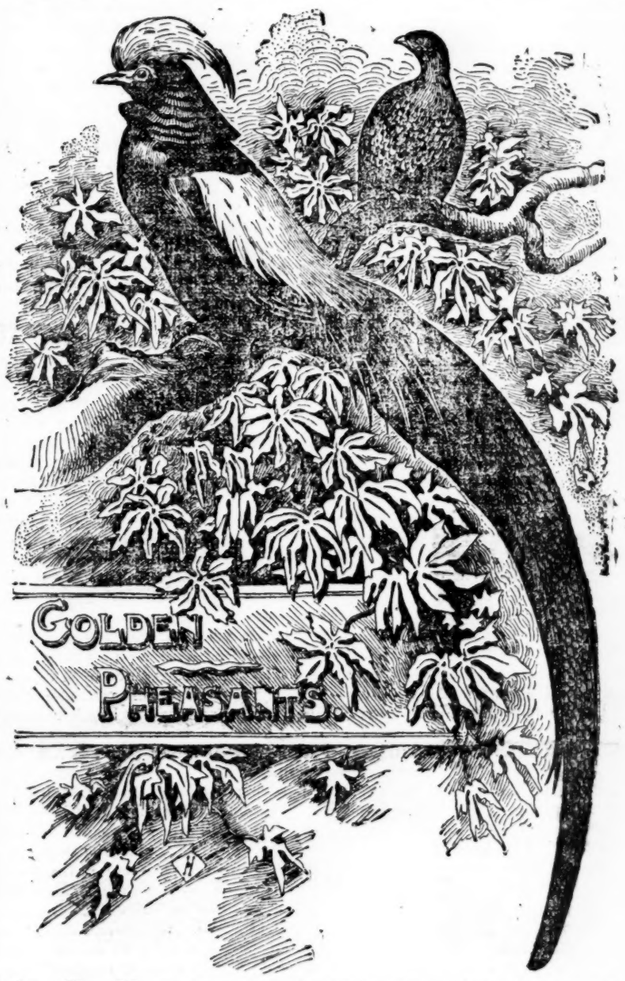
"Yes, Jack and Jerry make a very good team, and say, young man, I have a big three-horse team that I depend on a great deal, and find them indispensable. Their names are Manure, Tillage, and Clover. Good day."

Ceylon has a cinnamon plantation covering 36,000 acres.

THE GOLDEN PHEASANT.

The Gorgeous Representative of the Opulent Orient.

The Golden Pheasant (*Phasianus Pictus*) is one of the most beautiful species of this genus which is so remarkable for its beauty. The plumage, as described by Cuvier: "Beneath is of a fiery red; a beautiful golden-colored crest hangs from the head; the neck is furnished with a small collar, orange-colored, speckled with black; the top of the back is green; the lower part of the back and the rump, yellow; the wings red, with a fine white spot; the tail very long, spotted with gray," etc. It appears to me that the description of the Phœnix given by Pliny was made from this beautiful bird.



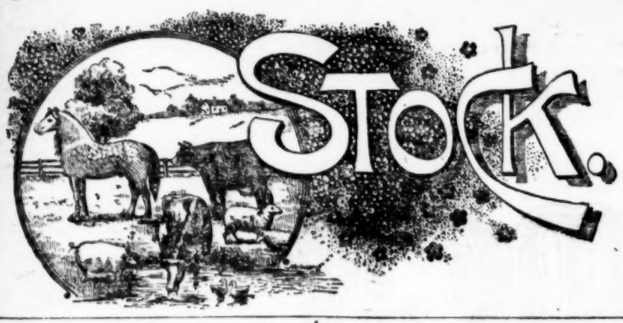
The plumage of the female is much more sober in tint, being varied with grays and brown, but is not without a quiet beauty of its own. But it seems dull, indeed, when compared with the resplendent plumage of the male.

The Golden Pheasant is rather smaller than some of the allied species, although its total length is about the same as that of the common pheasant. The tail, however, is very long, measuring fully two-thirds of the total length of the bird. The female has a considerably shorter tail than the male. The flesh and the bones of these birds are yellowish, and the flesh is flavored like that of the common pheasant.

The young in their first year are of a yellowish-gray color, with transverse brown bars. In the second year the males become of a deeper hue than the females. In the third year the beautiful adult plumage is assumed.

The eggs resemble those of the guinea fowl. They are smaller in proportion than those of the domestic hen, and redder than those of the pheasants usually bred in preserves. The Golden Pheasant is a native of China, where it is known by the name of Kinki. By Buffon it was erroneously supposed to be but a variety of the common kind, and owed its splendid plumage to the genial influences of a warmer climate; but as a common pheasant is also abundant in northern part of China, and as it breeds side by side with its more beautiful congener, and as the two never intermix in the wild state, it is perfectly evident that Buffon's supposition was purely fanciful, and had no foundation in fact.

In confinement the Golden Pheasant has proven rather more difficult to rear than the more common kinds, a difficulty perhaps attributable to having been kept in a more confined and unnatural state. The usual food furnished them is rice, flaxseed, wheat, and barley; also cabbage, grass, leaves, and fruits, especially prunes and pears. The old in confinement pay but little attention to their broods, but when at liberty they display very great solicitude for their welfare.



DOMESTIC ANIMALS.

Rules Governing Their Breeding and Management.

BY T. CLARK ATKISON, PH. D.

III.

ATAVISM, CORRELATION, AND VARIATION.

The subject of atavism is very closely related to heredity, and is sometimes called reversion by Darwin and others, and is recognized by practical breeders as "breeding back," and refers to any peculiarity of the ancestors which may make its appearance in the offspring without being noticed in the parents. There are a multitude of cases on record which go to prove this principle, and Prof. Miles has collected a great many cases in his excellent work on stock breeding, and Mr. Darwin, in his "Animals and Plants under Domestication," cites many interesting cases, which are too numerous for repetition here.

"When the child," says Darwin, "resembles either grandparent more than its immediate parents, our attention is not much arrested, though in truth the fact is highly remarkable; but when the child resembles remote ancestor or some distant member of a collateral line, and we must attribute the latter case to the descent of the members from a common progenitor, we feel a just degree of astonishment." "And while this is true," writes Mr. Warfield, "and the mind that is not familar with the singular and startling operation of the laws of atavism is often wonderstruck at the results, yet those who are familiar with the operation of that law—all who have had much experience in breeding animals of the same families for a number of generations especially—become so accustomed to an old and unseen character as to regard such a reversion as a matter of course."

In our own experience we have seen some striking illustrations of reversion, especially in swine breeding. In all the American improved breeds of hogs there will occasionally appear a notable illustration of this law of atavism by a reversion to some remote ancestor in the foundation stock. Youatt gives a case of a Berkshire boar being used on an Essex sow, the sows from which cross were bred to pure Essex boars; but 28 years afterward a litter turned up containing two pigs of well-marked Berkshire characteristics. Many such cases are noticed by the breeders of horses, cattle, sheep, swine, chickens, pigeons, and rabbits.

The breeders of hornless cattle and sheep are familiar with the occasional appearance of horns among their herds and flocks, which frequently give rise to a suspicion as to the purity of their stock. These facts illustrate the use and importance of a well-authenticated pedigree, in order to remove the suspicion. Mr. J. H. Sanders, in "Horse Breeding," says: "That peculiarity called atavism, or reversion, so often noticed in our domesticated animals, and which has so frequently set at naught the calculations of the breeder, has often been quoted as an illustration of the failure of the law of heredity, but which is in fact only a tribute to its power. By selection, change of climate or nutrition, or by crossing, or by all of these means combined, we may succeed in obliterating certain well-defined characteristics and in modifying a given type, until the new form or character which we have created will, in its turn, be transmitted with reasonable certainty; but suddenly the germ that has lain dormant for so many generations asserts itself, and, greatly to our surprise, the characteristics of the original stock will reappear. As I have before remarked, these cases of reversion must frequently occur when cross-breeding is resorted to. The counter current of hereditary influence, which are by this means brought into contact, having a common origin, appear to awaken into being the germ which has for generations been a silent factor in each of the newly-created breeds, and enables it to again assume control of the organism."

Closely related to these questions of heredity and atavism is the law of correlation, which is defined by Prof. Miles as "Any peculiarity of the development of one organ or set of organs is usually accompanied by a corresponding modification or suppression of organs belonging to some other part of the system." A long list of authorities might be quoted upon this subject, but we must content ourselves with those which tend to define and fix the scope of so important a question to the practical breeder.

"It has long been admitted," says Milne Edwards, "as an axiom in animal physics, that when any particular part of the body acquires a very high degree of development certain other parts stop short of their ordinary state of evolution, as if the former had obtained their unusual increment at the cost of the latter." One of the greatest of comparative anatomists, Cuvier, claimed that "All organized beings, in their structure, form a complete system, of which the parts mutually correspond and conduce to the same definite action by a reciprocal reaction. Each of these parts cannot be changed without the others changing also; and, by consequence, each of these, taken separately, indicates and gives all the rest."

Such eminent authorities as Prof. Owen, Dr. Carpenter, Darwin, Prof. Baird, Youatt, and Hewett might be quoted upon this subject, but we must content ourselves with one more illustration from Mr. Price, a noted breeder of Hereford cattle, who says: "Experience has taught me that no animals possessing form and other requisites giving them a great disposition to fatten are calculated to give much milk, nor is it reasonable to suppose they should—it would be in direct opposition to the law of nature. Had I willed it 20 years ago, my belief is that I could by this time have bred 20 cows purely from my own herd which should have given a sufficient quantity of milk for dairy purposes, and I am equally confident that in the same period I could have bred a similar number that would not at any time have given 20 quarts of milk per day among them."

Out of this law of correlation has grown the well-established fact that an "all-purpose cow" is a failure. The principle is a well-established one that as the animal develops beef producing characteristics the tendency to produce milk decreases. We see this strikingly illustrated in the different breeds of cattle. But I shall not now go more fully into this complex subject of correlated variation.

Under changed conditions and surroundings of life all animals are subject to change and variations which may be made more or less permanent by fixed conditions as to food, climate, treatment, and careful selection of breeding animals. "Our domestic animals," says Prof. Miles, "in common with other species are endowed with a flexibility or plasticity of the organization that enables them to adapt themselves to the conditions in which they are placed. As a result of a favorable change in the conditions to which animals are subjected, important modifications of the system are obtained that we recognize as improvements in form and quality, while deterioration and loss of valuable characters follow when the prevailing conditions of life are unfavorable to the full and healthy development of the organization."

Closely related to and more or less dependent upon "correlation" is the subject of variation, which is based upon certain underlying principles of great interest to he farmer and stock breeder. This variation depends largely if not wholly upon external rather than any internal conditions. "The principle causes of variation are climate, food, and habit; the influences of the first two in many cases being so intimately connected that it is difficult to determine what is due to each, while all of them may at times act together." Many illustrations might be drawn from the vegetable as well as the animal kingdom. Plants taken from one section of the country to another and cultivated under different conditions develop many variations from the original variety. Sometimes but a short distance makes great difference in the climate.

Marshall is authority for the statement that in the Cotswold hills a "stone might be flung from the country which sows its wheat in August into that which sows its wheat in December." Great improvement has been noticed as the result of moving domestic animals from one section or one country to another. In mountainous districts, cattle and sheep are usually smaller than they are in more level sections, nature having adapted them to climbing the hills in quest of their scanty food.

Dr. Carpenter quotes M. Roulin as authority for the statement that in Columbia, South America, "the practice of milking cows was laid aside, owing to the great extent of the farms and other circumstances. In a few generations the natural structure of the parts and the natural state of the function have been restored, the secretion of milk taking place only so long as the calf remains with the mother, and ceasing if it dies or is removed. Hence we have a valuable confirmation of the belief previously entertained that the continued production of milk by the European breeds of cows is a modified function in the animal economy, originating in an artificial habit, kept up through many generations and dependent upon a modification of structure which that habit has been the means of inducing."

Variations are not always in the line of improvement, but the fact that they do occur may be made a powerful means of improvement by the skilful and intelligent breeder. Atavism, correlation, and variation all seem to controvert the principle of heredity, but they are only apparent exceptions to a well-established rule, and by heredity we fix the improvements which result from variation.

Again, quoting from Prof. Miles: "The development of special characters in our domestic animals, and their consequent improvement in a certain direction, is apparently limited by the tendency to diverse variations, from the increased sensitiveness of the organization to the influence of modifying agencies, and the defective equilibrium of the organization arising from the excessive predominance of a single character. If a variation in a special direction is made at the expense of constitutional vigor, integrity of the nutritive organs, and fecundity, it becomes an abnormal character that cannot be perpetuated." A very interesting and intelligent discussion of the questions under consideration may be found in the *Popular Science Monthly* for April, 1893, from which we make this closing excerpt: "Inherited characteristics may for a time antagonize and keep in check the tendency to variation that arises in a change of surrounding conditions. Heredity tends to perpetuate the established habits, and is thus brought in conflict with the influence of the new environment. The latter will, however, prevail unless particular care is taken to strengthen the hereditary proclivity by vigorous and systematic selection. This struggle of divers tendencies is curiously illustrated in the case of some Australian acacias that were introduced to the Neilgherries of India in 1845. At home these trees flower in October, which is there a Spring month. The transplanted acacias continued in India to flower in October till about 1860, when they were observed to flower in September; in 1870 they flowered in August; in 1878 they flowered in July; and lastly, in 1882, they began to flower in June, the Spring month which corresponds most nearly with the Australian October. The trees imported since 1845 have not yet gone so far back in the time of their flowering."

(*The end.*)

THE FARMER'S HORSE.

The Best Breed and the Management and Care Which Should be Given.

A few weeks ago we sent out a number of letters to well-known horsemen asking their views on the following questions, believing that their replies would be read with interest:

1. What breed do you think is the best for the all-around work of the farmer?
2. What is the best manner of raising and breaking a colt, in your opinion?
3. How would you treat a horse after a hard day's work in the field in warm weather?
4. What feed is the best to keep up the muscular system for this hard work?
5. What do you think of the co-operative scheme; that is, farmers in a locality purchasing a stallion and mare for breeding purposes?

We give below the replies received to date. In connection with these we would like to hear from our readers on the subject:

In answer to your questions, will say: 1. English Shire is the best breed. 2. Plenty of exercise and plenty feed of oats and bran. Handle from a colt and he will always be broke. 3. In warm weather I would feed him and turn in pasture at night, with access to good, fresh water. In Spring, Fall, or Winter would turn loose in box stall, feed oats, bran, with occasionally oil meal, and corn for a change. 4. Oats and bran is the muscle-forming food.—WYATT CARE, Collins, Iowa.

The best breed of horses for farm work, I would prefer Grade Percheron or English Shire. Our common mares, bred to full-blood sires, make a fair size animal, with plenty of energy and easily broken to work. For raising and breaking colts, they should be halter broke when sucking, and have all the oats they will eat the first Winter, plenty of good hay thereafter until three years old, then broke to harness. After working a horse all day, I feed him a good feed of oats and corn for supper, and turn them to pasture during the night in warm weather. The best feed for hard work is oats and corn. I am not favorable to the co-operative plan of farmers buying a stallion and mare; never knew it to be a success.—W. N. BARTHOLOMEW, Palmyra, Iowa.

The horse I consider the best for general farm work (even if no horses are raised on the farm for heavy draft in the cities), is the Grade Shire, the second or third cross, depending on the nature of the soil, sandy land requiring a less powerful horse for plowing than heavy clay. The best way undoubtedly to raise and educate a colt is to handle him continuously from the time it is a few days old, and feed him all the oats necessary to keep it growing rapidly from the start. Colts are much more easily started during the first Winter of their lives than afterward. Bran is also an excellent food, either mixed with the oats or given alternately for a change. In very cold weather a little corn with the oats or bran suits some colts very well; but an entire diet of corn is very injurious, the ill effects lasting often for some time after the diet has been changed. A diet of two-thirds to one-half whole oats mixed with one-third or one-half crushed wheat is also very good. As one bushel of wheat crushed is equal to about two and a half bushels of oats in feeding value, wheat is often a cheap material to use with oats. A little linseed added is good. I have an opinion that the best treatment a horse could receive after work was over, would be to be washed all over quickly with water that had stood in the sun a little while, then scraped and sponged as dry as possible. This washing must be done whilst the horse is quite hot, and he will dry off in a few minutes, and will be in a fit state to be fed directly. I knew of a large stable of livery horses so treated, and the grooms told me the horses never caught cold in any weather. The hair does not look quite so sleek as with dry cleaning, but the horse's skin is much cleaner that way—infinitely cleaner than with the mere scraping and pretense of brushing farm horses usually get. It takes a long time to make a horse comfortable trying to dry and clean him when he has been sweating profusely. Washing, scraping, and sponging can be well done in less than 15 minutes. An extra careful man might bandage the legs after washing with canton flannel. In cold weather only would this be necessary. Never wash a horse unless he is hot; never attempt it after a horse is partially "cooled off," as that is the way to give a chill or a cold, and never use warm water for the washing. The best food, regardless of economy, is upland hay, oats, and a few horse beans; the latter I have never seen in this country. Crushed wheat, from one-third to one-half, added to the oats is a tolerably good substitute, and at present prices economical.

There is much to be said for and against co-operative stud companies. I think the Scotch plan the best, which is managed thus: The farmers in a district appoint a committee of their best horsemen to examine and hire the best horse they can get. A premium in cash is paid when the horse is put on the stand. A fee for each mare served, payable within three months, and an extra fee for every foal born. By this system a high-class horse is always to be had, and the best horses, as a rule, never leave Scotland, being good property to hold for hire, as described. I may add, by the way, that the practice so common of breeding to the horse with the smallest fee, regardless of the size and quality of the horse is simply suicidal. Big horses, well shaped, and good movers, are the only horses salable nowadays for draft purposes. A large percentage of the colts now being raised are not worth the food they will eat before arriving at workable age.—I. BROWSE OLDREWE, Florence, Kan.

Cornstalks cut up green make good food for hogs.

SHEEP AND WOOL.

Shearings.

One poor, shabby lamb will cut the price on the whole lot more than the mean thing is worth.

A nice, clean, bright bunch of plump lambs will sell themselves; they sell on sight at top prices.

If the old ewes are fat, and they will be now if ever, be sure to sell them; they are unreliable for breeding.

There is more complaint than usual among shippers that farmers know the prices and strength of the city markets. Good!

Never tie the legs of a sheep when taking it to market. Stand them comfortably on their feet and they will sell better.

There is good money in Spring lambs at one-half the price they have been selling for; so don't be afraid to stay in the business.

It is as evident now that mutton is to be a conspicuous feature in the sheep industry of this country as wool was thought to be 30 or 40 years ago.

It is estimated that the increased consumption of wool by American manufacturers in 1892 exceeds the consumption of 1891 by 59,000,000 pounds.

If the pond is depended on for stock water, and insect life swarms in the water, use salt liberally around the edges where the stock drink. It helps wonderfully.

Thank heaven, more intelligent views of sheep raising are being gradually forced upon sheep raisers and must finally prevail when the slow going must wake up or quit.

Montana shows a 10 per cent. increase of flocks during the last 10 years with an invested capital of $20,000,000, which yields a yearly revenue of $2,500,000 for wool only.

The cross of the Rambouillet ram on wool flocks gives greater assurance of relief from flock depression during the next four years than the 53d Democratic Congress wants to do.

Keep well posted on the markets, both as to buying and selling; both as to supply and demand. The local buyer does this, and he has no rights or privileges that you have not.

Turnips come in for special consideration, too. Will the best class of farmers who have given these and similar food crops a trial give us their experience? Let us have light.

Arizona flock owners are tired of the Navajo Indians stealing their sheep. These Indian sheep thieves are charged with stealing 2,000 from one man. It is believed by the sheepmen that they will have to protect themselves.

It is proposed to establish a wool pulling enterprise at Sioux City, Iowa, to take care of the 50,000 or more sheep that will be annually slaughtered by the Sioux City Dressed Beef and Canning Company, says the Sioux City *Tribune*.

There is more meaning in what is said of rape for sheep than is generally believed. We, of the corn States, were raised to think corn and hay were good enough for every and all purposes of stock raising. There is much to be learned, and rape is a part of it.

While wool is a very important factor in sheep husbandry, the mutton stands as a bulwark of strength and confidence not to be disregarded. So true is this that THE AMERICAN FARMER has insisted, and will continue to insist, that mutton should be mentioned first and wool last in speaking of flock products.

We are led to believe that the sheep farmers of France are returning to the pure Merino sheep for mutton as well as wool. They find that the mutton sells at the same price, no matter what breed is competing, and that Merino wool pays better than coarse breeds, both as to quality and quantity of fleeces.

Pastures should be studied wisely. They are the dependence of the flock in Summer, as much as the barn supplies are for Winter. If the pastures are failing, seek every opportunity of reinforcing. Use the public highway with caution. Pasture to stubble and later on the corn fields as an experiment.

The Merino sheep breeders of Vermont believed, or tried to make other folks believe, that their type of a sheep could and should prevail in each and every part of the country. The sheep industry of the United States was damaged millions of dollars by it, and in turn has reverted disastrously upon the Merino sheep, which will require years of work to recover from.

Quit the old fogy way of selling sheep and lambs by the head. The buyers like that way, because they can get a bargain out of the farmers. Sell by weight, as no other way is fair. The country buyers swindle the farmers every time in buying by the head by lumping the lot off or by guessing at the weight. They know what they are doing and you don't know and never will.

There is not one farm industry to-day that can be run on borrowed capital that will compare with a big, smooth, rangy Merino ewe that will shear eight pounds of long, clean wool, and a Down ram. The investor can meet his payments, run less risks, and come out ahead of the whole procession. The young man who is reliable can borrow money to run such a business every day in the year.

The Governor of Montana has issued a proclamation against the bringing of sheep into the State from Oregon, Nevada, California, Washington, Wyoming, Idaho, Colorado, Utah, and New Mexico on account of the prevalence of the scab in those sections. Sheep may be brought from any of the prescribed States when a certificate of the State veterinarian or his duly authorized deputy that the sheep are entirely free from scab or other infections or contagious diseases.

Some Terms Used by Breeders.

The terms thoroughbred, full blood, and pure bred mean the same thing, though the thoroughbred has been claimed to refer only to the English racehorse. Each of these terms indicate a well-defined and established breed.

The cross bred is the produce of two distinct pure breeds.

Cross breeding is not to be recommended except where there is a purpose to be attained, and in such cases violent extremes are, as a rule, disappointing. The violent, unjudicious mingling of well-established characteristics as found in breeds not resembling each other gives animals lacking in uniformity, and unless precautionary methods in selection and coupling are followed up for successive generations cannot be made useful.

The term grade can apply to animals in which the blood of some pure breed is found. A high grade would be anywhere from a half to 31-32d blood; a low grade would mean the taint of a pure breed more remote than a quarter-blood.

The grading-up process may begin by using either a pure bred or a grade male upon a female without any known breeding standard.

Line breeding is the selection of males that have been bred continuously to the same standard or family. This may not be confounded with in-and-in-breeding, though closely resembling it.

In-and-in-breeding is practiced by those who would fix certain characteristics which are desired. In grading up a flock, for instance, the ram is used upon his own get for two or three generations, but must not be continued too long, as it leads to weakness of constitution, loss of size, and general weakness.

Close breeding resembles line breeding, but is not carried to the extent of in-and-in-breeding.

An out-cross would be represented by the use of a sire of another family upon highly bred, line bred, or in-and-in-bred females for the purpose of remedying a constitutional weakness or to increase the size.

A scrub is an unfortunate animal that by carelessness and inattention has lost its breeding characteristics. It is an error to consider all sheep a scrub that have no recorded line of breeding; for instance, the "piny-woods" sheep of the Gulf Coast or the Mexican sheep are as perfect thoroughbreds as the deer of the forests. These sheep reproduce themselves with all the fidelity and trueness of type of the finest thoroughbreds.

The terms "native" and "scrub" are usually one and the same in breeders' nomenclature, though, as said before, there are differences which should be recognized because of their promptness in following a fixed type. The true scrub is a degenerated thoroughbred, and wanders from a fixed type with the most persistent dissatisfaction and unfixedness of character which resents the best directed efforts in the direction of improvement.

Pedigree is a record not always written, but that can be verified of ancestral usefulness. As generally understood, a pedigreed animal is one that has a well-defined history of breeding in a register, record, flock book, herd book, or stock book, as they are known among stockmen.

A recorded pedigree is preferred, not alone because based upon the strictest integrity of the breeder, but because such a record is supervised by an association or organization in a committee chosen for the purpose of investigating the claims to purity and family lineage before being admitted to registry. It is safe to conclude that such a registered animal is a worthy representative of the breed as claimed by its breeder and the association to which the breeder is a recorded member.

The value of register or record associations to live stock breeding industries cannot be too highly appreciated. A most grateful change is observable in pure breeding since these safeguards—these standards—have been recognized and guarded by intelligent and honest breeders in this country.

Symptoms of Disease.

It is worth while to know, if we can, some symptoms of coming trouble, and fortunately with lambs this is easy enough. If the shepherd will observe the flock as it goes out in the morning and comes in in the evening he will be able to detect the signs of approaching trouble if there is any. When lambs come from the pasture showing extraordinary fulness, accompanied by listlessness, and return to pasture in the morning with ears flopping and heads hanging down, it is safe to conclude that they are sick, and no time should be lost in changing the conditions and hunting for remedies.

The inattention to first symptoms of parasitical troubles, and these are the worst troubles the flock is liable to, is fatal, since the trouble is not recognized until too late. As soon as the health and vigor of the flock begins to decline parasites begin, and if the vitality is not re-established promptly the conditions are all tending to death. It is not worth while to presume upon things coming around unless something is done, and done quickly. It is not likely that nothing is the matter; that when the feed is better all will be well. It is safe to conclude that the parasites are there; that they are gaining in force, and the only thing to do is to meet them with the booming health and greater vigor of the lambs.

A New Cure for Asthma.

A Chapter of J. M. McCann's Proverbs.

The best dog law is written in the blood of the cur.

The most valuable ram is the one that sires the finest lambs.

The best animal is the one that makes the most money.

The old ewe dies when the grass is peeping through the snow.

The horse's education, like the child's, should begin in infancy.

A tyrant is a coward always hated. Be a friend and gentle master to every domestic animal on the farm.

Only the well-fed cow can fill the pail.

If we find comfort in our homes in Winter, do our cattle enjoy the sleet and snow drift?

Arms are useful where there are enemies to fight. Our cattle live in times of peace, and should therefore be disarmed.

Lincoln Sheep.

EDITOR AMERICAN FARMER: To be frank, I did not like your paper when I first saw it, but it is like the right kind of a man—the more and longer you are acquainted the better you like him. Your article in August 15 issue—"The Inevitable Fight"—is worth more than a year's subscription. You stand up boldly for the class who do not organize for their own protection; or if they do, the natural jealousy among them soon disintegrates; or wily politicians creep in and array themselves against each other and the organization goes to the wall.

Farmers are in favor of protection to their flocks, and in '96 will give their opinion of free wool if it is put on the free list.

You ask those who fed their sheep grain when they went out to grass to give results. For one, I tried it, and must say I never invested money more profitably. My Lincolns have all done well, and are very healthy. I visited the flock of President England two weeks ago, and found 44 sheep, ewes and lambs, on five acres of clover, and he assured me that they had no other pasture this season. A little bran and oats morning and evening produced lambs weighing 130 pounds, and one weighing 225 pounds, which attests the value of that kind of care.—H. A. DANIELS, Secretary Michigan Lincoln Sheep Breeders' Association, Elva, Mich.

Australian Way of Judging Sheep.

The Australians have a novel, but certainly a very just, method of judging sheep at their fairs. All sheep entering for prizes in the wool classes are brought to the societies' paddocks one year ahead of the show and sheared; then a mark of identification is placed on each one. The following year the sheep are exhibited and sheared at the show; the wool is then scoured and the prizes awarded to the animals producing the heaviest fleece of scoured wool. This plan is a very good one, but would prevent an exhibitor from showing his sheep at more than one fair.—*Exchange.*

Yes, but it would also prevent the tricky methods and crooked practices of unscrupulous exhibitors, which prevail so generally in this country. Sheep shows and shearing festivals are intended to be educators of the public, but they are not, because the sheep, the object lessons, are manipulated in such a way to deceive the people. The people do know what they see.—EDITOR AMERICAN FARMER.

Pure-Bred Sheep.

We believe in thoroughbreds from the baby of the home to the lambs of the flock. To keep in line there should be a record—a book of registry so carefully kept and so scrupulosly honest in statements that no one may question the claims of high-bred ancestry. But the most important quality in the make-up of a sheep is its ability to command the highest cash price in the stock yard. This is the commercial test of a profitable sheep. No questions of breeding or registry are asked there. All sheep are on a common basis when brought to this crucial test, and beyond which there is no appeal nor hopefulness. Pedigree and registry are helps, are guarantees, acceptable and useful to sheep raisers, and will always be. They are valuable as guides and reliances in breeding, adding values to animals on the farm.

Alas, Too True.

There are a great number of sheep raisers in the United States who look with wonder at the statements and methods of the few eminently successful flock masters, but still continue the business on the traditional and aboriginal systems taught them by their fathers. They hesitate to break away from old lines; they cannot see why so much difference in profits, and remain where they are—down in the ruts of prejudice and bigotry, regular old fogies. They expect things to come around to them again, and we expect they will stay there and be squeezed out of the business. The world moves, sheep husbandry moves; all industries move forward by just such iron rules—"the survival of the fittest."

Carrying the Hoe.

The proprietor of "Evergreen Farm" writes: "It has been my habit for years to carry a hoe along with me when walking through my pasture fields, so as to be at all times prepared to destroy every thistle, mullein, or other unsightly weed that may be seen. If I go after the cows, to salt the cattle, or to bridle the horse, I use a light hoe for a cane until I see a weed or briar along my line of march, and by taking a slightly different route each time the entire farm is soon gone over and the 'filth' destroyed with little loss of time or labor."

Wanted.—The sort of a sheep that can stand the pressure of Democratic free trade; that in good hands can meet the competition of Australia.

Some West Virginia Sheep Notes.

EDITOR AMERICAN FARMER: The losses of sheep in this State during last Winter were so great that many are going to quit the business. The truth is that only a practical shepherd can successfully manage a flock of 100 mutton ewes. Sheep are not so healthy as of yore. I bought me a Wenger dipping machine, and find it a great labor-saving invention. I can dip with one assistant from 300 to 500 sheep per day. I want a market for 5,000 good West Virginia ewes. The Baltimore market for stock ewes this year is no good.

Sheep have more parasites to contend with and must have better attention or they cease to be profitable. It is folly not to dip twice a year. All young sheep especially should have copperas in their salt. We must fight external and internal parasites all the time or lose the battle. That breed of sheep that will produce the most profitable fleece and the finest lambs, and when old can be converted into the best carcass of mutton, is the sheep for me.—J. M. MCCANN.

The New Lessons of Last Year.

Mistakes, blunders, and accidents are valuable lessons and well worth remembering. Some of these unexpected blunders upon truth are revolutionary in their effects upon the general practices. Such lessons are experiences, and guide or guard the future management. It is often the case that the unfortunate or damaging experience is regarded as failures for a time, but afterward as full of instruction. Of these unfortunate accidents too little is reported, but of the successful experiments too much cannot be said.

The thoughtful, prudent man looks for lessons from every source, and is guided accordingly in the practices of handling his business, whether of the farm, the shop, or the factory.

The stockman expects losses, and in every case recognizes, or should, the causes, and wisely guards against their repetition. The seasons bring casualties—cold Winter, the heat of Summer, the wet and dry seasons, the winds and storms, the good or bad character, the scanty or superabundant supplies of feed, all come, more or less, under the control or guardianship of man. These variations are certain, and the man of judgment will be provided and avoid disasters.

The last year, particularly during the Winter, was one of peculiar difficulties and some serious losses. The thoughtful breeder will see to it that loss does not come again from the same omissions to prepare proper food and shelter. It will be remembered that nearly all of the misfortunes and disappointments might have been prevented if this or that provision had been made. Disease came, lambs died, the ewes failed to breed, they failed to have milk, the quality was inferior, the prices obtained were unsatisfactory, because of this and that which might have been remedied. See that these things do not occur again.

Dip the Sheep—Cooper's Sheep Dip.

Hundreds of thousands of Western sheep will be placed on the grain farms this month, both as feeders and as lamb-mothers. All these sheep should be cleaned up before putting on the farms. Some of them already have the scab, and all have been exposed to it. The stock cars and stock yards are infected with parasites. The dust, the heat, and crowding has filled the fleeces with fetid matter, shutting the pores of the skin, and making the most unhealthy conditions. It will be money and time well spent to dip all Western, or all sheep that are kept under careless management, before they are turned upon new pastures for feeding or breeding. To do this intelligently write a card to Wm. Cooper & Nephews, Galveston, Tex., asking for their sheepman's guide, which gives full directions on how to dip sheep. No sheepman is well equipped for handling sheep unless he has this guide, Cooper's sheep dipping powder, and a dipping vat on his farm, or a share in a neighborhood concern, where the flock can be put through a thorough bath at the minimum of expense.

One thorough dipping will answer the purpose where sheep are to be fed 60 or 90 days and then sent to market. For lamb-mothers they should be dipped at least twice, very thoroughly and 14 apart, to catch the broods that are in the skin that cannot be caught at the first treatment. Two dippings will not always cure a flock, but it will hold the scab in check for the seven months necessary for producing and marketing a crop of Spring lambs. If the ewes are to be bred early and run to pasture until the grass fails and then put in the barn to stay until the lambs are sold, it would be well to shear them at the time housing begins and dip them once.

Some English Terms Explained.

Cast ewes are aged ewes drafted for sale or fattening. Culls, shotts or tails, inferior sheep for rejection. Cade, tiddlin, lamb or cosset, a lamb brought up by hand. Crone, a broken-mouthed ewe. Crock or milled ewe, one that has been crossed with a ram of another breed. Eild or yeld ewe, a barren ewe. Kebbet ewe, one whose lamb is still born. Fallies, deformed lambs. Quinter, a sheep from 15 months to four years old. Rig, an imperfectly castrated ram.

The Front Sheep Idea.

Get mutton sheep, treat them according to the best ideas and practices of mutton raisers; fit them for market at the earliest age possible, offer them to the trade in the best shape, and see if it does not pay.

There are those who still say sheep do not pay. This is a mistake. For lack of proper care, selection, and general intelligence on the subject some men can't make sheep raising profitable. This is "the truth, the whole truth, and nothing but the truth."

ANOTHER MAN'S SISTER.

LET US ALL pray to be delivered from the sin of hasty judgment. When I first beheld four or five modern comedies adapted from the French language, wherein the situations were all due to somebody, chiefly a she, entering somebody else's apartments, chiefly a he, I scoffed audibly. The thing was absurd, outworn, and cheap. But now that has happened which has caused me to know a great deal more about French comedies and critical situations than all the most successful playrights put together.

In the first place, I occupied (and still do occupy) chambers, which consist of two rooms connected by a tiny hallway giving on to the landing by one door. Therefore it will be plain to the meanest mind that once the hall door is occupied by the enemy the only other exit is from the window by way of the gutter pipe—a vertical distance of three stories. There should always be two ways, not including the window, out of every set of chambers.

This need had never presented itself to me until one memorable afternoon, when, without knock, word or warning, a round faced, golden haired, blue eyed maiden, in an astrakhan faced jacket, a gray skirt and black velvet hat, charged into my room, after the most approved fashion of all the comedies, crying: "Dear old Joe!"

My name was not, and never will be, Joe. There was no need for explanations. Sister, and only sister, was stamped all over the face of the maiden. Everybody who has been possessed of an only sister understands the manner in which one of the tribe enters a brother's rooms.

The maiden gave a little scream as I turned. She apologized. Could I tell her whereabouts Mr. Joseph Rupard's chambers were?

I could not; for you may live 17 years in chambers without knowing the face, life, or occupation of any one of your fellow convicts. I suggested that she should speak to the housekeeper, and escorted her to the tiny hall aforesaid.

You will observe that there was nothing whatever in these proceedings to bring a blush to the thinnest cheek.

The Imp of Perversity, who is generally playing about on the landing for six shillings a week, met me in the hallway, saying: "Lady and gentleman to see you, sir."

Behind him stood two figures that I knew, and at any other time would have received with joy.

The lady at my heels lost her singularly pretty head, and whispering "What shall I do?" bolted back into the sitting-room.

All this was strictly in accordance with the rules of the stage; but why it should have taken place in my chambers I could never understand. And yet I was deeply thankful that she had not gone forth, like Una, under the noses of my visitors. Uncle John—yes, it was an uncle, even as is the case in a comedy—would have laughed; and, since she was another man's sister, that would have been even worse than Aunt Alice's hawkeyed inspection of the maiden and subsequent description of her face, figure, and dress to all her righteous world.

I received my people in the hallway. An inspiration told me to get rid of my coat and rumple my hair. Desperate fear made me very wise, most courteous and genial to excess.

"Oh, so glad to see you," said I; but I'm afraid you have come to a regular camp in the wilderness. Fact is, my sitting-room is upside down; that fool of a housemaid has been doing something to the fire that has filled the place with smuts, and I've made her dust everything out again. But come into the bedroom, since you've taken the trouble to climb all these stairs." Even as I spoke in the hall, I heard the heavy arm chair wheeled up against my sitting-room door, and there was a sound of emphatic dusting. I thanked heaven that was pleased to afflict me, that it had sent at least "one heart still ready to play out the play."

Into my humble bedroom I led those relatives, and my aunt, after the manner of women, made searching inventories with her eye and inquired as to whether I was well looked after. But it was the aunti-pathetic kiss and the remark that followed—"My boy, how hot you are! Aren't you well?"—that seared my perfectly innocent soul like hot iron. Perfected crime must bring with it a sense of ease and rest. It is the unmerited imputation of evil that strains the nerves.

My aunt would fain have had tea, "when that girl had finished cleaning your rooms." The bedroom door was, of course, open. I assured my aunt that the folly of that housemaid prevented her from finishing anything this side of doomsday, and that the dust would not settle down till 20 minutes after that.

There was a crowing, choking noise that might have been a smothered chuckle, from the sitting-room, whereof the fanlight above the door was open.

"What a very superior voice she has!" said Aunt Alice. "Quite like a lady's. Is she pretty?"

"Come and see," quoth I, with that icy innocence that only cunning can bestow. I half opened the sitting-room door, coughed vehemently, and drew back as one choked with the dust.

"Impossible," I said. "She's not in a sweet temper to-day, because I made her do the rooms twice. We'd better not disturb her or she'll break my ornaments." This, meseems, could not have been excelled by the most hardened profligate on the stage.

My aunt left very slowly and deliberately, mourning for the loss of her tea. I escorted her and Uncle John down to the first floor. How could I tell that her housewifely zeal for her nephew would have led her to bestow upon the housemaid, who was Fan of the Teeth, a few hints on the best management of fires and the proper care of the room, which the fellow servant was even then supposed to be cleaning?

"You see, it all means more work for you in the end," said my aunt.

I dashed into the sitting-room to find, helpless with suppressed laughter, the maiden with the black velvet hat. I was coatless, as has been recounted (people never stay long with a man who lacks a coat), my hair was on end and I was flushed. But there was no resisting that infection of mirth. I laughed aloud. The air was dense with dust and all the furniture was out of place. "That fool of a housemaid" had lived up to her reputation.

"Haven't I done the room beautifully?" she said, with a wicked giggle; "thank you—thank you, oh, so much for helping me!"

"Not in the least," said I; "I've got a sister of my own. But hadn't you better"——

"I'm gone," she said, and vanished at the word, to hunt for her brother's chambers.

"LADY AND GENTLEMAN TO SEE YOU, SIR."

Entered, her cap over one eye, Fan of the Teeth, boiling with rage. She was an austere woman of 35, not to be trifled with.

"And I'm sure me and Lucy, too, we takes all the trouble that we can with 17 sets of chambers to be gone through, and the bells ringing on every landing all day long. 'Tisn't as if I was afraid of my work, for I 'ave kep' myself ever since I was a little girl of 13—nor Lucy, neither. But when that lady on the staircase spoke to me an' tole me that I was inattentive an' Lucy, too, an' smuts all about your room, sayin' that I was to take extra care of you, sir, I was put out. Do as yould be done by, I thinks, an' show no favor to any chambers more than another, for someone must lose by it; and if it isn't you, it will be some other gentleman. An' there aren't no smuts in your room not to be seen, an' Lucy, I know she 'as been on the fourth floor since I come down with the slops; but I didn't say nothink to that lady when she said what she said—and, Lor, sir, what 'ave you bin doin' to the furnichewre—all pulled across the room? Lucy 'asn't been 'ere no more than the cat. An' you 'avin' to see your friends in your bedroom—as if it was our fault!"

"Fanny," said I, "if there has been any fault, that fault is mine. Take, oh, take those lips away, and—here's a half sovereign."

It was a damning confession of guilt, received as such. Fan removed herself with an unholy light in her eye.

I hated Fan, and this still further shook my nerves. Worn with a thousand conflicting emotions I fled to the sideboard and pulled myself together with the necessary liquids. Men never seem to do that on the stage after any unusual crisis. They do in the prosaic world of real life.

Re-entered Fan, the half sovereign in her hand, and placed it on my table.

"I've took them in their teas," she said oracularly; "an' she was tellin' 'im all about it. She is a real nice little lady, she is, an'—an' I don't want no 'arf suffring for that."

No comedy that I could think of had any mention of the soubret—to be sure, Fan was rather too angular for the soubret—refusing a tip.

"And you're a lady, too, Fan," said I. "Keep it. Few people return money. Still fewer dismiss preconceived suspicions."

She withdrew slightly alarmed.

I stepped into the hallway to set down the empty soda water siphon in the place appointed. The door leading to the landing was half open. I heard voices descending the stairs.

"He was really very nice, Joe, about it. Said he had a sister of his own and laughed."

"H'mph. Then I'm sorry for his sister, that's all. He drinks like a fish. Why, only last night I found him on his hands and knees on the second floor, and had to help him to bed."

The next chambers! As I hope to clear my character before all judges, it was the man in the next chambers! I had heard the infernal din of that episode at 2 o'clock in the morning and a few of Joe's comments as he left the drunkard. How should the maiden know exactly into whose rooms she had penetrated? and here was Joe saddling me with my neighbor's booted slumbers.

I gripped the siphon head in an agony of wrath. The steps were almost opposite my landing. There was more soda water than I had thought for in the tube, and the infernal concoction exhausted itself with a fizzle, spit, and grunt. It seemed to roar through the house.

"There!" said Joe. "You hear, Milly? That's a soda water siphon. He's at it again—so early."

"But he didn't look as if he took"—— The sweet voice died away, and I was alone with my sorrow and my siphon.

To-day I know something of plot and construction; and, as I say, I understand the verisimilitude of the modern French farce. Yet would I sell all my insight for the single privilege of explaining to Milly (my Milly I married her since—she has dusted my room) that I am not—indeed I am not—the villain that Joe painted me.—*St. James' Gazette.*

Keep This In Mind.

"A man of kindness to his beast is kind,
But brutal actions show a brutal mind.
Remember, He who made thee also made the brute,
Who gave the speech and reason also made him mute.

He can complain, but God's all-seeing ey
Observes the cruelty—He hears his cry:
He was ordained to be thy slave and drud
But know that his Creator is thy Judge.

Wheat For Horses.

Professor Henry, an English scientist, has been investigating the comparative value of wheat as food for horses. It is reported that a Sheffield cab-owner used for a time wheat bread to feed his horses. He found the results most satisfactory, and only discontinued its use because the horses were robbed of their bread by their attendants. Professor Henry concludes that it is entirely unnecessary to make the wheat into bread. The danger in feeding wheat arises from the fact that the food is too concentrated, being without husks, and is likely, unless great care is taken, to derange the digestion.

This difficulty is, however, easily overcome by mixing the chopped wheat with chopped fodder or hay, dampened just as many persons mix bran. It is recommended that the wheat to be fed to horses should be crushed or flattened. Professor Henry considers wheat as approaching the nearest perfection for stock food of any of the grains, and it may well be doubted whether it is not cheaper than corn or oats when there is a larger difference between the prices than exists at present. Advices received indicate that a great deal of wheat is now being used for this purpose, but the indications are that it will not be long before the condition of the market will put a stop to the practice. The probable result will be that Europe will get a great portion of our surplus at the prevailing low prices and our own people later on will have to pay more for their bread. This is one of the effects of the operations of bulls and bears in the breadstuffs market. Every effort is made to keep down prices until after the farmers' necessities have compelled him to market his crop.

A Clean Boy.

Mother—I am glad to see that your neck is clean for once.

Boy—Yes'm. I got so sunburned the skin came off.—*Street & Smith's Good News.*

"Brother Podberry," suddenly remarked Parson Wilgus in the midst of his discourse, "as you seem to be the only member of the congregation who is awake, it might be just as well for you to come up here in the pulpit, where I can repeat the rest of my sermon to you in a conversational tone. It will save my voice and also be less annoying to the light sleepers."—*Indianapolis Journal.*

THE APIARY.

Hummings.

Honey for the market should be put in packages and labeled.

Honey must be kept in a dry, warm place to retain its fine, rich flavor.

The prejudice against keeping bees in the orchard has no basis whatever.

It is better to sow poor land in buckwheat for the bees than let it remain idle.

Farmers should keep at least enough bees to supply honey for the family table.

The demand for buckwheat honey is not so great as for the lighter-colored honey, but it is as good as any for the best during the Winter.

Mr. J. W. Tefft, writing from Warren, N. Y., under date of July 20, says: "I have taken up to date from 163 colonies of bees 7,792 pounds of honey, and the story is not half told."

EXTRACTED HONEY.

A Writer Who Claims That it Can be Profitably Produced.

I.

EDITOR AMERICAN FARMER: There are a great many beekeepers who will not produce extracted honey. One man will say: "It is a dirty job, the honey is not as salable as comb honey;" another, "It is not as well flavored," and so on. Another party says: "I can't handle a large apiary run for extracted honey without hiring a number of helpers, and it is a hard matter to secure competent help in the apiary." Let us look over this last man's method of management for extracted honey before we go any farther, and it is no fancy sketch, but taken from real life.

Friend B. had a splendid location for honey and a large and well-equipped apiary. He shipped honey to market by the carload and was the leading apiarist in his section of country. He usually set apart 30 or 40 colonies for the production of extracted honey, and declared that he worked harder with those colonies than with the rest of the apiary that was operated for comb honey, and he undoubtedly told the truth.

Mr. B. used the Langstroth hive, with an upper story holding 10 full-size frames, and made it a rule, if he could get around to it, to extract before the honey was sealed over. The *modus operandi* was about as follows: The first thing was to lift a heavy cap and place the same on the ground, remove a honey board, and then remove, one at a time, the combs and dislodge the bees. The combs were partly capped over, heavy with basswood honey, and would not stand, under the blazing July sun, a great deal of shaking. So, as a matter of course, the bees had to be brushed off, which was a slow and dauby piece of work.

As the combs were removed and brushed, they were placed in comb buckets holding five frames each; these were carried to the honey house by an assistant, where a third party uncapped and extracted them. The honey ran from the extractor into a bucket; when this was full it was emptied into a barrel. At the close of the day's work all hives from which combs had been taken were filled again with the emptied combs, one at a time, as they had been removed, and friend B. remarked: "I'll be blessed if that ain't hard work." The floor of the honey room was covered with daubs of honey and crushed bees.

We imagine that many a producer of extracted honey will smile at this *bona fide* description of Mr. B.'s day at the extractor, but we have good, substantial reasons for thinking that there are several apiaries where similar tactics are followed, with slight variations. Now, in justice to Mr. B., we must say that he went at his comb honey in a far different manner, and it was a fine sight at the close of the season to go into the room where his comb honey was piled up to ripen, and see a full carload of snow-white sections stacked up ready to crate.

"I tell you, Nash, that I have just about made up my mind to let that confounded extracted honey business out," said friend B. to the writer. "I never get over 10 cents for the extracted, and my comb nets me 15 cents and the extracted costs more to produce, and some way it lacks that rich flavor that the comb honey has. You see," he continued, after casting a deprecating glance at the cheese cloth covered barrels containing the extracted honey, "you see, I can get my cases of sections ready beforehand, and pile them up in the house here, and its no trick at all to manage the rest. But that extracted business comes on all at once, and it makes me tired to think about it, and for the life of me I don't see how anyone can manage so many colonies unless they use sections."

Another way: We will take it for granted that our bees are in movable frame hives of some approved pattern. Instead of the old upper story filled with brood frames, we will place on the top of the hive a super supplied with shallow frames not to exceed five or six inches in depth, in place of the old full-size brood frame, as these shallow cases are far superior for extracted honey production. These cases should be filled with good, straight combs, and it is a great advantage to have them with close-fitting end bars or uprights, but the top and bottom bars should be narrow enough to let the bees pass freely between them.

There should be enough of these cases to hold any crop of honey the apiary may produce. They should be made with square joints, with a bee space on the top of the frames, but none on the bottom, so that they can be tiered up two, three, four, or even five or six high. Use a board seven-eighths of an inch thick for a cover, well cleated to prevent warping. It is also a great advantage to have a dummy or division board at one side of each case, with a thumb screw to tighten up these frames close together.

Now, we will want a comb cart. Ours is made of a pair of cultivator wheels, such as are used here in the West by our farmers. They are 30 inches high and placed near the front of the platform or bed, which is made large enough to hold all the honey a man can wheel easily. Near the rear of this bed are two legs, similar to wheelbarrow legs, and a pair of handles. This is a tool that for the apiary is the superior of any wheelbarrow made, and when made with a light box is a very convenient tool for the farm yard or garden. They will carry a heavy load and never tip over. They are in use, with slight variations, in all of the large apiaries in California and can be made with springs underneath, but it is unnecessary. The door of the honey house should be wide enough to let the cart pass in.

Distributing the cases.—At the beginning of the honey harvest load all the cases the cart will hold and pass down the rows of hives, placing a case on each hive that is strong enough to work in them. This is a very short job. We often do this without the use of smoker at all (though we always have a large sized "Bingham" fired up and standing on the cart. This work, as well as most operations with bees, can best be done when the bees are working freely.

Pry up the cover and a glance will tell whether the colony will need a case or not, and a skilful operator will usually remove the cover and deftly place a case of combs on the hive and replace the cover before a bee takes wing, and all without crushing a single bee. The great advantage of the fixed frame comes in right here. In handling these cases there is no need of spacing the frames after the case is on the hive. When the frames are once adjusted and tightened up the cases may be turned bottom side up or stood on end, but the combs are always in their proper position, and in handling the combs filled with honey there is less danger of breakage than with the loose frame. A large number of colonies may have surplus room given them by this method in a short time.

When these cases are partly filled, raise them up and place another set of empty combs under the partly filled ones, and repeat this operation as long as the honey harvest lasts. This work can all be done by one person of ordinary strength; but in the tiering up after the first case is on an assistant, even a small boy, if he is not afraid of the bees, will be of great help and expedite matters by placing the empty case of combs on the brood chamber while the apiarist holds the filled cases just removed, and if proper care be taken, all this work may be done without any more killing of bees than is usual in other operations.

There is a sleight in handling cases without killing bees that is sometimes more easy to do than to describe, and different men have different ways of doing the same thing. For example, the writer often rests a case filled with bees on the front of the hive, and then, kneeling or stooping so as to see between the tops of one set of frames and the bottoms of the other, sends a quick blast or two of smoke between the cases; often every bee will be driven out of the way, then like a flash down comes the case.

At other times, a thin strip of wood or a feather can be passed in between to hurry a few laggards out of the way. Another way is to carefully place the case on the hive with a slow backward and forward motion, gradually lowering the case until it rests on the hive. This is very successfully practiced by some.—J. A. NASH, Iowa.

Notes From Oak Leaf Apiaries.

EDITOR AMERICAN FARMER: My experience with bee smokers has been that those kinds of smokers possessing the most perfect drafts are the best. The Hill bee smoker, I think, is far ahead of any at the present day. Before obtaining a Hill smoker I had used the Brigham and Clark smokers, also one manufactured, I think, by E. T. Lewis, of Toledo, O. After once using the Hill bee smoker I discarded all other makes. The ease with which one can handle that bee smoker, its wonderful draft and power of burning chunks of very hard wood, and the abundance of smoke that can be had at the right time, make it the best bee smoker known—at least I do not know of a better one. A well-known beekeeper, after seeing the Hill smoker that I had, exclaimed: "Well, sir, the man who invented that smoker had a happy idea come over him, for it is as near perfection in that line as anyone would wish."

I do not keep these smokers for sale, and am no way interested in the sale of such, but when I find anything that is really good and desirable I like others to know of it, too. Oak wood that has started to rot a little I find very good fuel for smokers. It may be rapidly started by a few drops of coal oil.

In introducing queen cells, West's spiral queen cage is very handy. With this cell protector there is no danger of it being torn down. In introducing queens I use the Peet queen cage, and I have always been very successful with it. If the right conditions are observed very few queens need ever be lost. Be sure a colony is queenless. Sometimes an old and a young queen occupy the same hive in peace, but this is the exception, not the rule, with queenless hives, and with enough honey coming in to keep the bees good natured, it is comparatively safe to introduce a queen.

The bee business should be run on the high-pressure principle; make them gather every pound that it is possible to do; use comb foundation whenever it is necessary; remove an inferior queen as soon as possible and insert a good one in her place; do not wait for bees to supersede their queen; bees make mistakes as well as the rest of animated creation. Use a one-sized frame in your apiary; if you have odd sizes in use try and work out of them as soon as possible. It is also advisable to use a uniform style of section—the one-pound, one-piece section is best. In regard to the varieties of bees, there is not such a vast amount of difference in the kinds that you keep as the bee sharp would have us believe after all. If you raise queens for sale you must try and keep your bees somewhat pure by either seeking some isolated location where black bees do not abound, or buy up your neighbor's bees and Italianize them. I have done considerable in the queen rearing business in raising Italian and Carniolan queens, but when running large apiaries I would never again remove a good prolific, hybrid queen (because she was a hybrid) and insert an Italian or Carniolan in her place, although if you are raising queens for market you must either remove or take chances of a hybrid mixture with your pure bees. I do not raise queens any more for market, as the cost of keeping bees pure is too great. There is more money in running entirely for honey.

There are many seasons here when bees gather a vast amount of honey dew. This honey dew, after being gathered and stored by the bees, is a very superior honey of exqisite flavor, great density, and beautiful color; the honey dew gathered from the cedar trees being the most superior.—S. L. WATKINS, California.

The Piedmont Region of the South—"The Best Country Under the Sun."

After the war a heavy emigration began to the West from all the Southern States, which continued several years. In late years, however, the movement has been reversed, and people are leaving the West and are settling in all parts of the South. The experience of those who have lived in both sections is that while the yield per acreage is not so large in the South as in some parts of the West, perhaps, yet the net profits for a series of years are quite as satisfactory and life far more comfortable, as the farmer does not have to contend with frequent and protracted drouths, destructive cyclones and caterpillars, and long, dreary, and severely-cold Winters. Taking into consideration the climate, especially that of the Piedmont region of Virginia, the Carolinas, Georgia, and Alabama, traversed by the Richmond & Danville Railroad system, with its advantages of good markets, cheap lands, pure water, and perfect school systems, unquestionably the "Best country under the sun," especially for the tiller of the soil, the manufacturer of cotton, woolen goods, and tobacco, is that situated between Washington, D. C., and Birmingham, Ala., along the eastern slope of the Blue Ridge Mountains, where all classes of citizens are prosperous and happy and a good livelihood can be had with minimum exertion. Outdoor work can be done every day in the year, and storms, destructive alike to life and property, are not feared as in other sections of the Union.

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"O fortunatos nimium sua si bona norint agricolas."—VIRG.

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TAKE THE AMERICAN FARMER.

The Summer is now over, and the farmers' reading time is at hand. In making up his list of reading matter for the Fall, Winter, and Spring, he should not fail to make THE AMERICAN FARMER head the list, and send in his subscription at once.

No other paper in the country gives so much good reading for the money. For 50 cents a year, a large eight-page paper visits the farmer's home twice a month, and brings him a mass of interesting matter to be found in no other journal. It is well illustrated, and filled with contributions from practical farmers who know from dear-bought experience the things they write about. No paper in the country has more practical information in its columns.

Beyond all this, it is published at the seat of Government, and is the only agricultural paper there. Every year the farmers have an increased and direct personal interest in matters at Washington, and it becomes much more necessary to have them represented here by a live, aggressive journal, which will devote itself entirely to their interests. This THE AMERICAN FARMER does. It has no other interests than theirs. It belongs to no political party, has no political aspirations, and cares nothing for politicians and public men further than their acts affect the farmers. It proposes to hold every one of them to a strict account for all that they do affecting the men who produce the country's wealth from the soil they till.

Every farmer should have the paper, no matter how many others he may take. He will find it as good as the best of them, and much in it that he can find in no other.

The price is so low that every one can afford to take it, and no one can afford to be without it.

NEW ENGLAND will have to buy a good deal of hay in the Interior.

THE TARIFF REVISION.

The House Committee on Ways and Means has commenced in earnest the work of preparing a bill for the revision of the tariff, and last week began hearing the representatives of certain interests which it is supposed will be affected by the revision.

Among the first to be heard were Messrs. Masters and Watson, of the House of Assembly of the Bermudas, who came to Washington to get the duties taken off or reduced on onions and other products of the islands. Mr. Watson is also Secretary of the Farmers' Alliance of Bermuda. He maintained that the duties were paid by the Bermuda growers, and not by the American consumers, and that if the duty of 38 cents a box on onions were taken off the Bermudians would get 38 cents a box more on their onions. He said that last year there were 10,000 boxes of onions shipped to the United States, on which the freight was 16 cents and the duty 38 cents each, and that they were sold at an average of 50 cents each, so that the truckers paid everything and lost money on their onions. He did not think this was right, because nearly the whole trade of Bermuda was with the United States, and last year the islands paid $150,000 into the revenue of the United States, which was $15,000 more than the whole revenue of the islands, and amounted to a tax of $10 a year on every man, woman, and child on the islands. In three years that the McKinley law had been in operation they had paid the United States $351,000. In reference to potatoes, the Bermudians denied that their products came into competition with those of this country, as their season only lasted from April 1 to June 13; but Representative Turner, of Georgia, took exception to this, as from his own knowledge he knew that the Florida and Georgia potatoes came into the market early in April.

The fruit importers had the next innings. The New York representative of a London house wanted the duty taken off white grapes, which he felt sure would cheapen the "cost of the grapes to the poor and the rich." Very inconsistently he insisted that the Malaga grapes would not come into competition with any raised in this country, but finally admitted that the Malaga and Tokay grapes raised in California were quite as good as those raised in Spain, and were supplanting them in the domestic market.

Friday, Sept. 8, representatives of the twine and bagging manufacturers appeared, and protested against any reduction of the duties on their articles. They claimed to be outside the trust, and said that if the combine was again formed they would favor abolition of the duties.

The same day the brewers and hop importers made an appeal to have the duty on hops, which is now 15 cents, put back to eight cents. They claimed that the present duty benefited no one, and that the brewers were constantly menaced by the fear that they would have to pay exorbitant prices in the event of the failure of the home crop. They admitted that nothing of this kind had happened for years. The country raised more hops than it needed, and exported about 30 per cent. of its crop.

Wm. Wilkins, of Baltimore, who manufactures nearly half of the curled hair and bristles in the country, asked for the retention of the duty on those articles, which would be for the interest of the farmers by helping maintain the price of hogs. He had the bristles removed from the hogs by his own workmen, and the cost of this was a large element. He paid his men from $1.50 to $3 a day, while his competitors abroad could get labor all the way from eight cents a day in Japan to 55 cents in France, and 90 cents in England and Germany.

Two representatives of the tobacco growers argued for the retention of the duty on tobacco, and representatives of the manufacturers and dealers urged that it be reduced or taken off. They claimed that the domestic product was not suited for wrappers, but admitted, in response to a question by Mr. Reed, that the only advantage of the Sumatra wrapper was to the eye.

Much of the time of the committee since has been taken up with manufacturers of wool, textile fabrics, cement, iron, and steel specialties, etc.

Hon. Wm. Lawrence, President of the National Wool Growers' Association, has endeavored to get a time set for a hearing, but has been informed by Chairman Wilson that no time could be allowed him because the hearing would close on the 20th. He will be allowed, however, to file any written argument, and this he has already done.

It seems to be the general belief that Congress is bent on passing a free-wool bill, and it will do this unless the wool growers make a mighty effort to stay proceedings. This, we regret to say, they have not done. While wool growers' associations have done all that they could, the individual sheep owners do not appear to have asserted themselves to influence their Senators, Representatives, and the public press, as other men have whose interests are similarly menaced. The tobacco and hop men, the rice growers, the fruit raisers, and the manufacturers are all alive to the situation, and impressing upon their Congressmen the necessity of preventing any injurious action. Too many of the wool growers seem disposed to let their flocks be slaughtered without protest. This should not be thought of for one instant. The wool growers are a great power, and should make themselves felt. They can defeat free wool if they only will act. They should do it for their own interests and for those of the country. The sheep interest is of much more importance to the country than the silver mines, yet we see how active the mine owners and miners have been in agitating for their interests. The sheep men should present a solid, aggressive front, and make every public man feel that an attack upon them was at the peril of his political life.

INFECTING THE CHINCH BUGS.

Thirteen Counties in Kansas report that Prof. Snow's plan of fighting the chinch pest by infection was successful, and the bugs were more or less effectively "knocked out."

Prof. Snow urges that preparations be made now for an effective campaign against the pest next Spring. He recommends that the fields be looked over for bugs killed by fungus, and these be gathered and preserved for starting the infection in the Spring. They can be found under clods, fallen cornstalks, etc. Care should be taken to collect only those which show a growth of white fungus on their bodies, and molted skins be not mistaken for dead bugs. Every wheat grower should also prepare a little box in which to cultivate bugs infected with the fungus, so as to have two strings to his bow, and be sure to have enough to rid his fields of the pest.

COMING OF BETTER TIMES.

There is every evidence that the financial stringency is passing away, and better times have dawned. Money is much easier than it was, and the premium on currency has totally disappeared. More gold has been received from Europe in spite of the Bank of England raising its rate of discount. Exports of agricultural products continue to increase and prices to strengthen.

The advance in the price of wheat was about one cent, and that of corn one and a half cents. Cotton went up to eight cents, but afterward weakened somewhat. Unquestionably this is only the beginning of a tolerably steady and general advance in prices.

More factories are resuming than stopping, and many more are getting into shape to resume.

The failures for the week were only 323, against 385 the previous week, and 450 for the week preceding that—an unmistakable sign of a gradually strengthening improvement.

IF THE farmers can manage to have the duties retained on potatoes, tobacco, and barley, they will get good prices for those products. The drouth has seriously diminished the yield of potatoes in all the great producing districts except that of Aroostook, in Maine, and the yield throughout the country is scarcely two-thirds what it was two years ago. Our great competitors in potato production—Great Britain, France, and Germany—have suffered still more severely, and will have to buy instead of sell. But Eastern Canada has a large crop, and if the duty is lowered or removed, the Canadians will find a good market in this country for their potatoes. Except in Wisconsin and Pennsylvania, the tobacco has suffered much from the drouth, and the condition is from 10 to 30 points worse than last year at this time. The stocks, particularly of cigar wrappers, have been pretty well cleaned up and prices are suffering everywhere. The barley acreage is seven points less than last year, and the condition six points worse, so that if the duty is maintained prices must rise.

HORSE AND CATTLE EXHIBITS.

The competitive exhibit of horses and cattle, which began at the Stock Pavilion of the World's Fair Aug. 21, ended last Saturday, and was an immense success. There were 19 classes of cattle and 20 of horses, and these embraced the very best animals that the world has to show. Each class of cattle had its herd book, and each class of horses its stud book, and every animal was a thoroughbred aristocrat, with a clearer and longer lineage than any noble in Europe.

There were substantial pecuniary inducements, added to breeders' pride, to bring out the very best. The Directory of the Fair had appropriated $150,000 for cash prizes, and as much more was added by States and live stock associations. Illinois gave $40,000, and Vermont made a liberal appropriation for Morgan horses—a breed of roadsters which has been a veritable bonanza for that little State. A new departure was made in the way of giving a written reason for each award made. Though the rivalry was intense, there was no "kicking" on the part of exhibitors, no protest was filed, and when all was over the exhibitors united in the presentation of a handsome memento to Chief Wm. I Buchanan, and another to the Chief of the Live Stock Bureau, Charles F. Mills.

Te next thing is the Exhibit of Sheep and Swine, which will begin Sept. 25 and close Oct. 14.

THE HAY TRADE.

Theo. P. Huffman & Co., of New York, write us privately as follows:

The export trade in hay at the moment is very quiet, as the markets on the other side are well stocked, and our own representative cables us that $25 for a ton of 2240 pounds is the highest price that the London market is realizing for No. 1 hay, and also in France, and that Russia, Australia, and the Argentine Republic are shipping large quantities of hay to Europe which depreciates the market.

The United States and Canada have a large crop. In fact, above the average, and we do not look for high prices in our own markets, namely, New York, Boston, Philadelphia, and Baltimore for the present season, and we can predict that the following prices on the following grades for at least six months to come. Grades subject to rules for grading just adopted and put into effect by the New York Produce Exchange:

	Large bales.	Perpetual bales.
Prime	90 cents	85 cents.
No. 1	80 to 85 cents	80 "
No. 2	75 "	75 "
No. 3	65 "	60 to 65c.
Clover mixed	60 to 65 "	60 to 65c.

THE discussions of the silver question still goes on in the Senate with many able speeches on both sides, which are all *pro forma*, however, as no one expects them to change a single vote. The opponents of the repeal are merely talking against time, to delay action and increase the chances for a compromise. Several suggestions for such an adjustment have been made, without apparent success. It looks as if the issue is to be squarely forced on an unconditional repeal of the Sherman Law. Last Tuesday Senator Voorhees gave formal notice that he would expect to close the debate, and secure a vote before the end of next week. He said that the friends of silver had had ample time for discussion, and been permitted to say all that they could. Now he expected that they would consent to take up the substitutes and vote upon them, so as to clear the way for the final vote. That this will be for repeal is not doubted.

THOUGH there are many objections to the combined harvester, it seems to have come to stay. It requires large wheat fields, without fences or other obstructions, and level or gently-rolling ground for its profitable employment. It injures and loses a great deal of grain, but where the conditions are favorable to its use it makes a great saving to have the grain cut, thrashed, cleaned, and sacked at one operation.

LAST week the sales of wool and the prices were the lowest on record. Only 1,271,200 pounds were sold in the principal markets, against 7,616,800 pounds for the same week last year, and the average price for the 104 grades was but 17 cents.

THERE is no pleasanter sign of the development of the country than is given by the rapid development of cotton manufacturing in the South. Five years ago Southern factories consumed 480,000 bales of cotton; last year they used 744,000 bales.

IF Congress had done its duty last year, and furnished the country with a good postal savings bank system, the financial stringency would have been much less severe. People would not have rushed to the Government savings banks to withdraw their money for fear they would break.

U. S. DEPARTMENT OF AGRICULTURE WEATHER BUREAU.

Departures from Normal Rainfall for the two Weeks Ending Sept. 11, 1893.

TEMPERATURE.

During the two weeks ending Sept. 11, 1893, it was warmer than usual in the central Ohio Valley and from the upper Mississippi westward to Idaho, the temperature being decidedly above the normal in Minnesota, the Dakotas, and Montana, where the average daily excess generally ranged from 6° to 10°. A very slight excess occurred in the lower Rio Grande Valley and on the coast of the Carolinas. Nearly normal conditions prevailed in the South Atlantic and eastern Gulf States and over northern Texas and Kansas, while it was cooler than usual in New England, over the southern Plateau region and on the Pacific Coast, the deficiency in temperature being most decided in northern California, where it ranged from 5° to 8° per day.

PRECIPITATION.

The rainfall during the two weeks ending Sept. 11 was largely in excess in the South Atlantic and east Gulf States, southern Virginia, and western New York. About 10 inches of actual rainfall occurred in the southern portions of Alabama and Louisiana, and amounts ranging from 2 to 7 inches occurred in the other districts named. There was also more than the usual amount of rain on the Pacific Coast northward of San Francisco, the excess amounting to more than an inch along the immediate coast of Washington and Oregon. But little rain fell over the region from the upper Ohio Valley and lower lakes westward to the Rocky Mountains, and from Missouri and Kansas southward to Texas, there being an entire absence of rain over a strip of country averaging 400 miles in width, extending from southern Minnesota southward to the Rio Grande Valley.

SPECIAL TELEGRAPHIC REPORTS.

New England.—Temperature below average; precipitation below average, except in southern New Hampshire; too cool for growing crops, corn especially; fruit prospects very poor.

New York.—Cool and bright; sufficient rains; severe storm of 7th, with hail, did great damage to standing crops in Allegany and Steuben Counties; soil in fine condition; seeding progressing rapidly; pasturage greatly improved.

New Jersey.—A most favorable week for all maturing crops; Fall plowing and seeding well advanced, and in some sections completed and grain coming up well; corn and orchard fruits seriously shortened by recent storm; grapes and cranberries a full crop; sweet potatoes near the average; white potatoes short.

Pennsylvania.—Weather favorable in most sections for plowing and seeding; severe hail and wind storm damaged corn and tobacco in northeast section on 7th; corn and tobacco cutting in progress.

Maryland.—Considerable tobacco housed, late benefited by rain, fair yield of buckwheat; corn and fodder damaged by high winds, cutting commenced; some fall seeding done; peach season approaching close in Eastern and Southern sections; late peaches in Western section improved by rains.

Virginia.—Rainfall above normal and generally well distributed, beneficial to crops and grasses; normal amount of sunshine.

North Carolina.—First of week warm and dry, causing some improvement in crops; rain last three days not needed and very injurious to cotton, causing rust, shedding, and rotting of bolls; preparing land for wheat; peas, potatoes, and peanuts good.

South Carolina.—Too much rain and too little sunshine; cotton opening slowly, some picking done but staple poor, plant taking rust badly and bolls rotting; corn rotting on stalk; little improvement; previous damage generally underestimated; plants hurt by sea water have revived slightly; peas and potatoes good.

Georgia.—Past week has been cloudy, with much rain; latter too late to benefit much except turnips and Fall gardens, and has caused severe injury to cotton, which has sprouted in the boll, and also rotted and rusted; picking very slow.

Florida.—Temperature slightly deficient; rainfall generally excessive, but beneficial to crops generally, except cotton; farm work delayed by rain; oranges splitting some, but general condition good; cane fine.

Alabama.—Cotton picking suspended by heavy rainfall, some damage to open cotton, other benefited; peas, potatoes, late corn, and turnips in fine condition; cane crop good, beginning to make sirup; temperature and sunshine below average.

Mississippi.—Temperature and sunshine below normal; rainfall generally heavy, retarding opening and harvesting of cotton and injuring staple; damage from worms increasing; late corn slightly injured, outlook unfavorable; Fall gardens good.

Louisiana.—Storm of 7th did no material damage to cane, but injured rice to some extent and retarded cotton picking, also blew down some cotton; weather continues very dry in northwest portion where the cotton crop is reported short; rains in other localities generally beneficial.

Texas.—Cotton prospects have changed very little since last report, picking is progressing rapidly; late cotton and top crop are needing rain, the crop is light in most parts of the State; stock water scarce in western part of the State.

Arkansas.—Worms and drouth have seriously damaged cotton which is opening rapidly in the more southerly portions, and picking is becoming general; rain's the latter part of the week were beneficial to late crops, except cotton, and will put the ground in good condition for plowing.

Tennessee.—Drouth has been broken by fine rains; much of the late corn, peanuts, tobacco, and cotton are beyond recovery, but general good will result; pastures and late potatoes improving; plowing for wheat will be resumed; outlook more encouraging.

Kentucky.—Temperature excessive; sunshine deficient; rainfall excessive in Western and central, and deficient in Eastern portion; much tobacco cut; crop short; rains too late for corn and tobacco.

Missouri.—High temperature, excessive sunshine, and continued drouth are affecting crop conditions and all agricultural prospects detrimentally.

Illinois.—Temperature and sunshine above and rainfall below average; little change in crop conditions; corn being cut, much beyond danger of frost; feeding stock general; hard and dry condition of ground makes plowing impossible; broom corn is of excellent quality; pastures dried up.

Indiana.—Precipitation very deficient, most localities none; temperature excessive; sunshine average; corn cannot recover, most being cut for fodder; tobacco suffers much; little Fall plowing done, ground too hard; water scarce in localities; many forest and field fires.

West Virginia.—Temperature normal and rainfall below; corn, buckwheat, tobacco, and all growing crops need rain; plowing slowly in progress; live stock in good condition; pastures scorched; light frosts in some places but no damage.

Ohio.—Drouth continues; corn maturing rapidly, cutting in progress; no plowing or seeding being done; pastures dead; tobacco being cut, badly injured by drouth; stock being fed; water scarce.

Michigan.—Temperature above average, except in Northern and central sections; sunshine above and rainfall below average; farm work at a standstill for want of rain; no Fall seeding done yet; peaches and grapes abundant; corn about all cut; celery good.

Wisconsin.—Drouth continues; little wheat sown; potatoes very light crop; pastures gone, feeding stock; over one-half crop cranberries saved from frost; fire greatly damaged marshes; corn mostly cut, much dried up, yield below average.

Minnesota.—Temperature excessive and rainfall greatly deficient; corn cutting nearly completed; excellent weather for thrashing, but too dry for Fall plowing and pastures; considerable stock being fed; Winter wheat about all sown; rain badly needed.

Iowa.—Another hot, dry week; three-fourths of corn crop past danger of frost; late corn ripened too rapidly for complete development; pastures dry; little seeding done.

North Dakota.—Excessively high temperature and very little rain during the week, favorable for thrashing; rain badly needed for Fall plowing; high southerly winds retarded thrashing.

South Dakota.—Sunshine and temperature above and rainfall below average; corn out of way of frost and ripening fast; potatoes doing fairly; rain needed very much for pastures and Fall plowing.

Nebraska.—Very hot week without any rain; corn maturing too fast; early corn generally safe from frost; pastures and gardens drying up; ground too dry for Fall plowing.

Kansas.—Rainless and cloudless week; hot days and cool nights good for haying and thrashing, but severe on late crops and pastures; much sowing to be done when weather changes.

Oklahoma.—Normal temperature; warm days and cool nights; no rain; continuous sunshine; cotton picking begun, first bale in market on 7th, quality first class; rain needed to sow wheat.

Montana.—Temperature slightly above and precipitation about normal; rains during week retarded grain harvest.

Wyoming.—Temperature above normal; no precipitation; no improvement in crops; excellent weather for harvesting; too dry for plowing.

Idaho.—Drouth broken in northern portions; heavy rains and high winds interfered with harvest work; thrashing in many sections finished and in others progressing; yield reported below usual average; ranges improved by recent rains.

Colorado.—Conditions favorable for harvesting; weather continues very hot, dry, and unfavorable for late crops; considerable thrashing; high winds blew much late fruit off trees in western portion.

New Mexico.—Temperature normal; dry, clear weather, excellent for ripening and harvesting fruits and all crops.

Arizona.—Precipitation and temperature below normal; maximum sunshine; all conditions have continued to improve since last report.

Utah.—Frost in several sections, but no great damage done to crops; rain has been general; high winds and hail have damaged fruit trees to a great extent; good crop of corn; small grain about average.

Washington.—Cool and cloudy week; generous showers retarded harvesting and thrashing, but revived gardens and pastures; sudden appearance of lice, causing picking of hops to begin earlier; no serious damage yet.

Oregon.—Late rains retarded thrashing and slightly injured standing grain; shocked grain uninjured; hop picking at its height, some yards benefited, others injured, potatoes, garden vegetables, fruits, melons, and pastures benefited by rain.

California.—Abnormally cool weather and excessive rains in upper portion of State damaged dried fruit and grapes on vines; gloomy outlook for raisin growers; warmer weather needed for fruit drying in all portions of State.

MARK W. HARRINGTON,
Chief of Weather Bureau.

THE disastrous effects of the threatened abolition of the duties on wool were clearly demonstrated at the sale two weeks ago of the Gillespie farm in Washington County, Pa. A flock of 250 sheep were sold at a great sacrifice. Good 2-year-old ewes and wethers, which last year would have brought $2.50, sold at $1.20; 4-year-olds, last year worth $3, sold for 93 cents, and good Spring lambs, formerly worth $2, brought only 80 to 95 cents. Farmers were not anxious to buy even at these prices. Washington County has about 461,000 sheep and shears about 2,400,000 pounds of wool a year. At the present prices the farmers there have become about $10,000,000 poorer in the value of sheep and wool alone, than they were last year.

WHILE there was more cotton planted this year than last, and more grown, it is doubtful if as much will be picked. Drouth, army worms, scarcity of labor, the financial stringency, and the low price of the staple have all combined to reduce the amount that will be brought to market. English manufacturers think that the low price of cotton will enable them to offer goods on a basis of 2¾ cents, and close up the American mills.

IT IS estimated that there are but 40,000 barrels of pork, 7,000 tierces of lard, and 7,500,000 pounds of ribs held in Chicago, which is the lowest stock for many years. The reports from Ohio, Illinois, Indiana, Kentucky, Michigan, Missouri, and Wisconsin indicate a small crop of hogs, with an average in Kansas and a shortage in Nebraska, Dakota, and Minnesota. This, with a greatly increased demand from Europe, points to a certainty of good prices.

THE report that Sur.-Gen. Wyman, of the Marine Hospital Service, had excluded lemons and oranges from cholera infected ports of Italy from entry made the importers complain that the California and Florida lemon growers influenced the order. It is all nonsense. Every man ought to know that a lemon or an orange is a very effective carrier of the cholera germs, much more so than rags, which have been excluded from the first, for the reason that the lemon or orange goes directly to the mouth, and it is by the mouth alone that the germs find entrance to the body. Rags are comparatively harmless, while a lemon which has been merely touched by a filthy laborer who has been around where there are cholera germs, may carry the seeds of death of many persons.

THE *London Times* says that Great Britain will have to import the unprecedented quantity of 224,000,000 bushels of wheat, and with France and Germany already drawing on the world's supply instead of contributing to it, the prospect is for high prices.

PERSONAL.

Prof. Shaw, of the Ontario Agricultural College in Guelph, Canada, has been elected to a chair in the Agricultural College of Minnesota at an increased salary. He will assume the duties of the position early in October.

A recent publication says: "In the last eight years no man in the United States has done so much to promote the interests of the wool growers as Judge William Lawrence, of Bellefontaine, O., President of the Ohio Wool Growers' Association. He has made more speeches, writtten more newspaper articles, and given more time to the advocacy of protective wool duties than any other citizen. He made the leading arguments before committees of the Senate and House, at Washington, in favor of wool protection, resulting in the wool tariff provision of the McKinley law. He has been prominently urged to become President of the National Wool Growers' Association at its next meeting."

THE NATIONAL GRANGE OF The Patrons of Husbandry.

EXECUTIVE COMMITTEE:

LEONARD RHONE, Chairman, Center Hall, Center County, Pa.
J. J. WOODMAN, Secretary, Paw Paw, Van Buren County, Mich.
J. H. BRIGHAM, *ex officio*, Delta, Fulton County, O.

OFFICE OF THE SECRETARY,
514 F STREET N. W.,
WASHINGTON, D. C., Sept. 9, 1893.

DEAR SIR AND BRO: In accordance with the provisions of its Constitution and the resolution adopted at the session of 1892, the 27th session of the National Grange of the Patrons of Husbandry will be held in the city of Syracuse, N. Y., commencing on "the first Wednesday after the second Monday in November" (15th) at 11 o'clock a. m.

The sessions of the Grange will be held in Alhambra Hall.

Accommodations for the National Grange have been secured at the Vanderbilt Hotel (as headquarters) and Globe Hotel, at the rate of $2 per day each, including heat and light.

By order of the Executive Committee,
JOHN TRIMBLE,
Secretary National Grange.

COMPLIMENTS.

I think THE AMERICAN FARMER one of the best agricultural journals I have yet read.—F. FEDDEISEN, Petersburg, Va.

Among the half dozen agricultural papers I take, I certainly class THE AMERICAN FARMER one of the best.—B. F. HERRINGTON, Waynesburg, Pa.

Gen. Cassius M. Clay, of Kentucky has been, very much of a man in many ways. He was very much of a soldier, very much of a politician, and very much of an anti-slavery agitator, but he is still more a farmer, and more than all a wool grower. He has always had one of the best flocks of sheep in the country, and takes great pride in it. He is now 83 years old, but very vigorous in body and mind. He attributes his condition to the avoidance of stimulants. He has used very little spirits, coffee or tea, and no tobacco; also, he has endeavored to sleep nine hours every day, and as he grew older a little more.

Frank McC., Fort Pierre, S. D.: I like the watch very much, but I like the paper better.

Miss Edna K., Curtice, O.: I received the watch all right. It has kept good time so far, and I am very much pleased with it.

G. E. M., Huntsville, Ill.: I received the watch and paper. Everything was as good as your word. The watch is well worth the money.

THE OHIO WOOLMEN.

Semi-Annual Meeting of the State Association at Columbus.

At the semi-annual meeting of the Ohio Wool Growers' Association, held at Columbus, Hon. L. B. Wing, of Newark, offered the following resolutions, which were unanimously adopted:

> *Resolved*, That the wool growers of the United States can, with "full and adequate protection for the wool industry," will soon produce all the wool and mutton needed for consumption in the United States.
>
> *Resolved*, That free wool, as now the declared policy of the President and the Democratic majority in Congress, will substantially destroy the American wool industry and thereby injuriously affect all others, especially depressing the price of farm products and impairing the value of farms.
>
> *Resolved*, That the wool growers of Ohio and of the United States are earnestly urged to oppose the nomination or election of any candidate for any political office who will not favor full and adequate protection for the wool industry.
>
> *Resolved*, That inasmuch as the recent panic and the continued monetary stringency commenced with the export of gold, one necessary remedy is to so legislate that we will cease importing wool which comes chiefly from countries that take substantially nothing from us in return but gold.
>
> *Resolved*, That the wool growers of Ohio and of the United States are earnestly urged to attend the mass meeting of wool growers, wool dealers, the cotton planters, the farmers, and members of Grange organizations in the United States, on the 28th and 29th days of September, 1893, at Assembly Hall, on the grounds of the World's Columbian Exposition at Chicago, and also to attend on the 5th of October, at the same place above mentioned, a meeting of the National Association of Wool Growers, to reorganize the association, elect a President, a Vice-President from each State and Territory and other officers and aid in securing the objects aforesaid.
>
> Whereas under proper protection the United States would soon have 100,000,000 sheep, which with the lands, buildings, and farm implements required for them would add $500,000,000 to our taxable wealth and give millions in the employment of labor and bring up annual income in wool and mutton of $200,000,000 and make a vastly increased demand for pasturage, hay, corn, and oats, all of which will be substantially destroyed by free wool and mutton, bringing devastation threefold greater than the destruction of all our gold and silver mines; therefore
>
> *Resolved*, That such free wool and mutton would be the colossal political crime of the age.

Judge Lawrence delivered an able address, which was full of facts and plainly showed what would result if wool was put on the free list. In opening, he said:

Again we have assembled to take counsel together on the subject of sheep husbandry, including the production of wool and mutton, and to consider the means by which it may be sufficiently large and made fairly remunerative and prosperous.

I. All the people interested in sheep husbandry and its increase.—It would be a great mistake to suppose that this association is in any respect in antagonism to any interest or industry of any of our American citizens. A little more than half the people of the United States are engaged in agricultural pursuits, including the production of cereals, grass, hay, sheep, horses, cattle, hogs, poultry, rice, sugar, cotton, tobacco, garden vegetables, etc. It is conceded on all hands that there is overproduction in all these except wool, mutton, sugar, rice, and tobacco. The consequence of overproduction is unremunerative prices. The overproduction can and should be relieved by devoting to sheep husbandry a part of the lands now depressing prices with their too abundant supplies. Thus the enlargement of the sheep industry would improve the condition of all our other agricultural industries.

More than half of the 600,000,000 pounds of wool on the unwashed basis annually consumed in the United States is imported in the form of wool and woolen goods. We can, under proper conditions, produce all needed wools. In order to do this our flocks, now numbering less than 50,000,000 sheep, should be increased to a hundred millions. This would require an increase of 4,000,000 sheep, as the fair proportion for Ohio, and this would make an increased demand for 4,000,000 bushels of corn for stock sheep, and for a million mutton sheep, nearly, if not quite, 5,000,000 bushels more, or a total of 7,000,000, worth an average of $2,100,000. The demand thus made for pasturage, hay, and oats would in like manner aid present overproduction, would give increased employment to labor, to care for sheep, labor to produce crops, labor to clear and improve lands.

An addition of 4,000,000 to our sheep would, at fair prices, add to the wealth of our farmers $10,000,000 in the value of sheep and to their annual incomes for wool $6,000,000, and $4,000,000 for mutton, or a total of $10,000,000.

And all this would add to the value of farms. Every farmer in Ohio is deeply interested in the success and increase of sheep husbandry, whether he owns sheep or not.

Every other citizen is interested. Agriculture is the foundation on which all other industries are built. If farmers cannot prosper none of our industrial or other classes can. An increase of sheep husbandry would make an increased demand for skilled labor to furnish building materials, to erect additional sheep barns, and to make additional agricultural impelments.

It would increase the business of wool dealers and add to the work of railroad transportation. The profits of sheep husbandry, under proper conditions and the advantages to farmers not engaged in it, would add to their financial ability to build houses, to buy farm implements, to patronize schools, colleges, churches, benevolent enterprises, and generally all pursuits useful among men.

All experience, too, has shown that if we permit foreign producers to destroy any of our industries we are thereby made dependent on them for supplies, and with the foreign monopoly they will then dictate prices and our people will pay higher prices than they would to home producers, and that is even worse. As our own production is diminished the means for buying foreign products will be reduced and, too, often destroyed.

II. Free wool will destroy our American wool industry.—Every intelligent man who has studied the subject knows that the wool growers of the United States cannot successfully compete with the wool growers of Australia, of the Argentine Republic, of South Africa, and other countries similarly situated. The two countries first named have each over 100,000,000 sheep.

Sheep in these countries require little or no Winter feeding. Pasturage costs nothing, or at most, in some localities, only a few cents an acre. Sheep are kept on ranches with from 5,000 up to 1,000,000 in numbers.

Mr. Wallace, for the last four years until recently the American Consul at Melbourne, in a letter April 14, says of the cost of producing first-class good Merino wool in Australasia: "I have the testimony of more than 50 station owners who keep accurate records that their expenses amount to £75 per 1,000 head of sheep; that is, $364.99 or 36½ cents per head, and returns show about six pounds per sheep, or 12 cents per pound for wool in the grease. This can be relied upon." (See also Special Consular Report, State Department, on Australian sheep and wool, 1892, page 205.)

Australian wool in the grease will not shrink in scouring more, and frequently not quite so much, as Ohio washed Merino. Theodore Justice, an eminent wool merchant of Philadelphia, in a letter Aug. 23, says: "The Australian shippers can ship (wool) by sea (to Boston) at one-half cent per pound, where many of the American wool growers on the ranches (in the new States and Territories) have to pay in freight three cents per pound. This alone bars the American wool grower from competition with the Australian wool grower even in our own (Atlantic) seaboard markets where American wools are sold."

In other countries inferior grades of wool are produced at much less prices than in Australia.

There is an unerring mode of ascertaining the foreign cost of wool, which is shown by cost of imports as follows:

The imports of wool for the fiscal year ended June 30, 1893, were:

Kind of wool.	Quantity, pounds.	Value.	Importer's cost, cts.
Class 1........	43,311,565	$7,877,676	17
Class 2........	6,738,201	1,466,641	21.77
Class 3........	118,380,070	11,720,863	9.90

The foreign wool thus costing 17 cents is chiefly Australian unwashed Merino, nearly equal to best Ohio washed; that costing 21.77 cents chiefly washed long wool, equal to our best Ohio washed, Shropshire, Southdown, Lincoln, etc., and the class three wools similar to the native Mexican or common coarse unwashed wools of Texas, New Mexico, etc.

These are the prices which wools would command at Boston, on the basis of the import prices, to which should be added about one cent per pound for freight and charges.

The true test of the price of wools is the value of the scoured wool.

III. How to maintain and increase the American wool industry.—Protection protects. A sufficiently protective tariff would keep out all foreign wool. It would give to American wool growers the exclusive privilege of supplying all needed for consumption in this country. Suppose the tariff law required importers to pay $1 a pound for the privilege of selling foreign wool. Every man can see none would be imported. Our flocks would soon be increased sufficiently to supply all, and home competition would secure wool at the fair cost of production. That rate of duty would be not merely protective, but absolutely prohibitory. This proves that a tariff can be made to give our wool growers the privilege of supplying all. But no wool growers ask for any such rate of duty. We only ask for such rate as will keep out foreign wool when the prices here are no more than the reasonable cost of producing wool here. Such duty would admit foreign wool whenever prices here should go beyond the fair cost of production.

The tariff act of 1883, with a duty of 10 cents per pound on unwashed Merino, effectually excluded South American wools. The American Consul at Buenos Ayres, in his report to the State Department of Dec. 13, 1888, says:

> The shipment of wools to the United States were exclusively of the long carpet wools from Cordova, it being the only class that it is possible to send to our (United States) market under our tariff at a profit. Our tariff, so far as the clothing (Merino) and finer qualities are concerned, is prohibitive. While those from Australia can come in, those from the Argentine Republic, owing to the greater amount of grease and dirt which they contain, are quite excluded. The amount of dirt and grease in the (unwashed) wools of the Argentine Republic reaches to more than 70 per cent., while the (unwashed) wools of Australia and New Zealand only have about 50 per cent. In other words, while the average yield of Argentine wools scoured is only 30 per cent., that of the other countries named is 50 per cent.

The McKinley tariff of Oct. 1, 1890, provided protection duties as follows:

> On class 1 wools—Merino, etc., unwashed, 11 cents per pound; washed, double duty; scoured, treble duty.
>
> On class 2 wools—Down and other long wools, washed or unwashed, 12 cents per pound; scoured, treble duty.
>
> On class 3 wools—Native coarse sheep if of the value of 13 cents or less per pound.

The duty is 32 per cent. ad valorem; if of the value of more than 13 cents per pound, the duty is 50 per cent. ad valorem.

This is sufficiently protective as against Merino wools from the Argentine Republic. It was intended to give, as the platform on which Gen. Harrison was nominated for the Presidency in 1888 promised, "full and adequate protection." Under conditions then and previously existing, it would have afforded adequate protection as to first and second class wools.

Why, then, did prices of wool in the United States in 1892 decline below those prevailing when the act of 1890 was passed?

This is a fair question, and there is for it a complete answer. The decline was caused by the great decline in the price of foreign wool consequent upon a vast increase of sheep in foreign countries, and to some extent because foreign wool growers determined by reduction to ruin our wool industry here. In support of this I will offer only one witness: On March 1, 1892, Mr. Springer made a report in the House of Representatives on his free wool bill, in which he refers to the increase of sheep in foreign countries and to the reduction of our tariff on wool by the act of March 3, 1883, and says: "This increased production following a reduction of the tariff on wool, had the effect to depress prices; but this depression is further explained by a general decline in the price of wool throughout the world. The act of Oct. 1, 1890, increased the duty on wool on an average of one cent a pound, with a view to increasing the prices of wool in this country."

It is true wool is low. The average price of good unwashed Merino is now and for some months has been, in Ohio, 12 to 14 cents; of washed, 18 to 20 cents; of medium wools about 20 to 22 cents. These prices are about four cents per pound below the level of the Philadelphia and Boston markets, the difference covering cost of transportation, commission, interest, and wool buyers' profits.

A letter from I. Rosenberg, an eminent wool merchant, dated San Francisco, Aug. 17, says:

> The prospective revolution of the tariff has knocked our wool down to 6 to 8 cents per pound in the grease and 25 to 33¼ cents per scoured pound. It has paralyzed the industry of the Coast already.

This, of course, is Merino, shrinking 66 per cent. in scouring, as much of all Merino wool will.

The inquiry is indeed pertinent: Why is this so, with the McKinley law in force?

The answer is: Soon after President Cleveland was inaugurated March 4 it was proposed to him that tariff revision be abandoned, and he said: "Why, what are we here for?" His Secretary of the Treasury, a few weeks later, declared that wool would be on the free list within six months from the time the extra session of Congress assembled. In view of this wool manufacturers said with much reason: "We must buy wool at free-trade prices, because before we can manufacture it into goods and sell it free wool will be here, and foreign manufacturers will be here, and all will be on a free-wool basis."

The threat of free wool is the cause of the low prices. In support of this I will give the testimony of one witness, the *Boston Herald* of June 16, Democratic in politics, which says:

> The wool market here has not improved from the extremely depressed situation noted a week ago. Tariff agitation, and a possibility of reduced duties on wool, unsettled the woolen-goods market to the extent that manufacturers are at a loss as to what they shall do. The possibilities of free wool also make it imperative that dealers shall buy the new clip at figures that will admit of its being sold on the basis of free wool.

And this is sufficient reason for the present low prices of wool.

Of course, the monetary panic so unnecessarily brought on by the failure to maintain the $100,000,000 of gold reserve, which could and should have been done, and the threat of gold monometalism have aided, but did not cause this result.

IV. The Ohio Wool Growers' Association is not a political party organization, but it aims to secure by legislation and other legitimate means the maintenance, increase, and prosperity of the wool industry. It accepts the policy of the National Grange, as declared by its authorized lecturer, who, in referring to the Mills free-wool bill and the Springer free bill, said:

> The Grange opposed the tariff of the Mills bill, because it placed 33 articles produced upon American farms upon the free list to start with; and the average tariff for farmers in the whole bill was less than one-half the average tariff it gave the manufacturers. * * * The bill lately passed by the House of Representatives (the Springer free-wool bill) placing wool on the free list entirely ignored the rights of the farmer guaranteed under the Constitution, and the Grange will never indorse such action while a single cent of duty remains upon manufactured wool. Wool is not a "raw material." Wool is a complete manufactured article of the farmer, the result of his investment of labor and capital, and it should stand equal before the tariff law with woolen goods.

The Ohio Wool Growers' Association indorses the teachings of Jefferson, Jackson, and Benton as to wool.

The act of Congress of May 19, 1828, giving high protective duties on wool, was voted for by Benton, Van Buren, Buchanan, and all the leading Democrats in the Senate and House. The act of Congress of March 3, 1883, reduced a very little the higher duties on wool in the act of March 2, 1867. In 1883, the Ohio Democratic Executive Committee issued a circular denouncing the reduction, and declaring "that as protection * * * has thus far proved highly beneficial to the farmers of Ohio * * * this protection should not be withdrawn as long as a protective policy is pursued."

On April 7, 1884, every Democrat in Congress from Ohio voted for a bill to restore the wool tariff act of 1867.

This was indorsed by the Ohio Democratic State Convention, June 25, 1884. On the 23d of January, 1884, the Democratic Ohio Legislature—

> *Resolved*, That our Senators in Congress be and are hereby instructed and our Representatives requested to use all honorable means and vote for the bill to restore the tariff on wool as it stood prior to the recent reduction, etc. (See Ohio laws, Vol. 81, page 379, laws of 1884.)

V. The farmers, more than any other class, are interested in protective tariff duties.—They need protection to save the wool industry from ruin. They need protective duties to keep out wheat, barley, oats, potatoes, hops, hay, beef, cattle, sheep, wool, eggs, poultry, dairy products, and garden vegetables from the Dominion of Canada, from Mexico, and elsewhere.

They need protective duties to keep out tobacco, cotton, hemp, rice, provisions, and other farm products from various countries of the world with cheaper labor and lands than ours. Without such protection all these would come in upon us in vast quantities to depress prices and take from our farmers the privilege of supplying them. Why should foreigners be permitted to supply any of these, when our farmers can produce all? The farmers need rather more than less protection on some articles and an enlargement of the policy of exclusion. The imports for the fiscal year 1893 were, in custom-house value, $941,361,421, and of these, dutiable and free, there were imports of articles of food and live animals $335,867,309, or about 37 per cent. of all, besides wool, $21,065,180; cotton, $4,688,799; animals (cattle, horses, sheep, poultry), $3,216,520; breadstuffs, $2,612,697; flax and hemp, $2,564,637; hops, $1,085,407, etc.

Every pound of wool imported is equivalent to an import of grass, hay, oats and corn that makes it, and takes from our farmers just so much of our market. Every pound imported carries gold out of the United States, coming, as it does, from countries that take nothing else in return. The farmers need protection to build up manufacturing establishments to make a home market for farm and garden and orchard products.

VI. American wool growers can supply all needed wools.—It is sometimes said our wool growers will not produce carpet wools. But it has been proved that if we had, as we need, 100,000,000 sheep of various kinds, we could not avoid producing all needed carpet wools. The coarse "hip-back," "belly," and "breech" wool of the Shropshire, Down, Cotswold, Leicester, and other sheep and the wool of our common coarse-wool sheep would supply all. (See U. S. Senate Mis. Doc., 149–51, Congress 1st Sess., p. 6.)

Again, it is sometimes said we need Australian wool "to mix" with ours for successful manufacture.

William Whitman, President of the National Association of Wool Manufacturers, said: "In my judgment the American staple wools are better adapted for the fabrication of satisfactory clothing for the American people than any other wools grown."

Charles Fletcher, of the Providence Worsted Mills, said: "The talk of 'mixing' Australian wool to make goods required for this market is all nonsense, as Australian wools are only used largely here when they are cheaper than domestic wools."

VII. The duty of wool growers.—The million and more of wool growers in the United States, including 80,000 in Ohio, have duties to perform. "Faith, without works, is dead." He who adheres to a political party which abandons its wise traditions and adopts a policy hostile to the interests of all our industrial classes, is blind to duty and does not properly exercise the power of his citizenship. Our duty is to demand by voice and vote that no man shall be nominated as a candidate for, or elected to, any political office who will not use his power in every just mode to give "full and adequate protection to the wool industry" so long as any tariff duty is levied upon any manufactured product.

To the wool growers I say: Vote to save our industry from ruin. On the 28th and 29th days of September, at Assembly Hall, on the grounds of the World's Columbian Exposition at Chicago, attend the mass meeting of the wool growers, wool dealers, the cotton planters, the farmers and members of Grange organizations to devise measures to promote the interests of the people engaged in the industries mentioned.

On Oct. 5, at the same place, let representatives of wool growers and sheep breeders' associations and wool growers all over the country attend in force a meeting of the National Association of Wool Growers, to reorganize the association, elect a President, a Vice-President from each State and Territory and other officers, and to devise means to promote our common interests.

Let us not sacrifice our flocks, but keep and increase them until the friends of the agricultural and other industries of the country shall be able to secure the protection which they need.

VIII. Free wool would be the colossal political crime of the age.—The Director of the Mint estimated the product of our mines of gold in 1892 at 1,596,375 fine ounces at the value of $33,000,000, and of our mines of silver at 58,000,000 ounces at the average commercial value of $0.875 per fine ounce, $50,750,000, or a total of $83,750,000. The destruction of these mines by legislation would be a colossal crime.

But the annual product of our sheep husbandry is greater than all this.

The number of sheep in the United States is in round numbers 50,000,000, with an annual product in wool and mutton which at fair prices would be $100,000,000, and developed to meet our needs would be $200,000,000.

Free wool legislation destroying this would be the colossal political crime of the age.

THE QUESTION BOX.

Answers to Some Inquiries from Our Subscribers.

VISIBLE SUPPLY OF WHEAT.

EDITOR AMERICAN FARMER: If it is possible, will you kindly give me the visible supply of wheat in the United States, and how does it compare with that of other years? —J. M. F., Frederick, Md.

The following table shows the visible supply of wheat in the country back to 1890. It shows the number of bushels on the 1st of each month in granary at principal points of accumulation at lake and Atlantic ports and in transit by water.

Months.	1893.	1892.	1891.	1890.
Jan............	81,238,000	45,908,000	25,478,000	33,972,000
Feb............	81,487,000	43,118,000	25,392,000	31,488,000
March..........	79,463,000	41,111,000	22,925,000	28,066,000
April...........	77,654,000	41,036,000	22,764,000	27,116,000
May............	75,027,000	37,926,000	20,980,000	23,982,000
June...........	70,159,000	29,522,000	17,491,000	22,453,000
July............	62,316,000	24,262,000	13,580,000	20,174,000
Aug............	59,349,000	23,992,000	16,768,000	18,463,000
Sept...........	....	26,260,000	19,124,000	17,640,000
Oct............	....	47,901,000	26,832,000	16,800,000
Nov............	....	61,094,000	36,232,000	21,255,000
Dec............	....	72,580,000	43,265,000	24,528,000

THE INDIANA WOOL GROWERS

Unanimously Adopt Resolutions Against Proposed Tariff Reduction on Their Product.

The Indiana Wool Growers' Association recently held a largely attended meeting in Indianapolis. Thomas Nelson, of Clark County, presided over the meeting. A committee consisting of Hon. Calvin Cowgill, of Wabash; J. W. Robe, of Greencastle, and J. W. Hall, of Indianapolis, presented the following resolutions to the association, and they were unanimously adopted:

> A moment's reflection forces the conviction that the less diversified are our pursuits as farmers, the more shall we be compelled to extort from our fields in exhaustive crops, not only imposing upon us heavy expenses in maintaining the fertility of our lands, but forcing us into narrower channels of production, thus tending to glut the market and reduce the price for such surplus as we may be able to produce because of over-production.
>
> For the foregoing reasons, and many others that might readily be assigned,
>
> *Resolved*, That we regard it as our imperative duty to ourselves, to our common country and to more than 8,000,000 farmers and husbandmen of the United States interested either directly or indirectly in sheep husbandry, to use every honorable means of which we are capable in resisting any legislation tending to lessen the present duties on the importation of foreign-grown wool.
>
> *Resolved further*, That we regard the fallacious and sophistical arguments used by the free traders to induce the wool grower to believe that if there were no duties imposed on the foreign article he would be able to realize a better price for his wool, as an insult to the understanding of every intelligent farmer.
>
> The present fear of such legislation has to a large extent destroyed our markets and reduced the obtainable price that we can realize for our wool at least 33 per cent.
>
> Whereas we, as farmers and husbandmen of Indiana, being interested in wool growing and sheep husbandry, viewing with alarm the threatened destruction of that industry because of the proposed repeal of the law imposing customs duties on the importation of foreign grown wool, do respectfully, but most earnestly protest against any change or modification of the present law, whereby wool and woolens may be imported into the United States upon more favorable terms to the importer than at present. And for our action we assign the following reasons:
>
> Such threatened repeal has caused already a depreciation in the value of sheep and wool in this country of nearly, or quite, 50 per cent. on that kind of property of the aggregate value of $300,000,000.
>
> There is no branch of husbandry more remunerative to the American farmer if he can have that protection that will secure to him his home market for his wool than sheep husbandry —but it is impossible for him to successfully compete on equal terms in the same market with those who grow wool with the cheap labor and on the cheap lands of Australia, the Argentine Republic and South Africa, and in other countries where it is produced at merely nominal expense.
>
> When it is admitted, as it must be by all well informed persons, that this country's main reliance in preventing heavy balances of trade against us in our international trade with other Nations is upon the products of our fields, our herds and flocks, the threatened destruction of that great industry becomes inexplicable. And more especially is that so when we reflect that if sheep husbandry is destroyed the American farmer shall be compelled to resort to branches of agriculture not only more laborious, but far more exhaustive of the fertility of the soil, thus in every way lessening his ability to earn a decent livelihood.
>
> Why that great industry should be singled out for destructive legislation when none are asking for it, and none are to be benefited by it except the foreigner or importer of his products, surpasses our comprehension to understand.

The association then proceeded with its other business. To the massmeeting at Chicago for the 28th of this month they elected as delegates Messrs. Cowgill, Robe, Sid Conger, Fielding Bieler, of Indianapolis, and Dr. John Kunkl, of Marion County. As delegate to the National Association of Wool Growers, to be convened at the same city, Oct. 5, they chose Messrs. Nelson, Hull, Bieler, Cowgill, and J. Jackson, of Tipton.

PETITIONS AND BILLS.

Introduced in Both Houses of Congress for the Interest of Agriculture.

AUG. 31.

Senator Peffer, of Kansas, presented a petition, of the Farmers' Alliance and Industrial Union, of Santa Clara County, Cal., praying for the free and unlimited coinage of silver. Ordered to lie on the table.

Senator Cullom, of Illinois, presented resolutions adopted at a Grange meeting held near Woodson, Ill., in favor of the free coinage of the silver bullion now in the Treasury and all that may be offered hereafter, and in favor of a constitutional amendment securing free coinage and forbidding the purchase of bullion or issuance of bonds of paper money without the consent of a majority of the State Legislatures. Ordered to lie on the table.

SEPT. 2.

Senator Kyle, of South Dakota, presented a petition of the Crow Creek settlers of his State praying for the enactment of legislation to reimburse all settlers driven from their lands. Referred to the Committee on Public Lands.

SEPT. 6.

Senator Allison, of Iowa, presented a resolution of Algona Grange, 1684, Patrons of Husbandry, favoring the coinage of all gold and silver mined in the United States; remonstrating against the repeal of the law taxing State banks and praying that all money shall be issued by the general Government; also favoring an increase in the currency equal to $50 per capita. Ordered to lie on the table.

He also presented memorials from Advance Farmers' Alliance, 586, of Shelby County, and Lynn Farmers' Alliance, of Montgomery County, of his State, remonstrating against the repeal of the so-called Sherman Silver Law, unless there be first enacted a law providing for the free and unlimited coinage of silver at the present ratio of 16 to 1. Ordered to lie on the table.

SEPT. 8.

Senator Quay, of Pennsylvania, presented a memorial of Shaw's Landing Grange, 164, of Cochranton, Pa., remonstrating against any alteration whatever in the medium of exchange or increase of National debt. Referred to the Committee on Finance.

Senator Dolph, of Oregon, introduced a bill, which he introduced last session and which was reported favorably by the Committee on Public Lands and passed the Senate, to refund to homestead and pre-emption settlers upon even sections within railroad land grants forfeited to the Government, where the road was not built, $1.25 per acre who have paid $2.50 per acre. This bill is now pending before the Committee on Public Lands at this session, and he presented a number of petitions signed by sundry citizens of the State praying for its adoption. The petitions were referred to the committee in charge of the bill.

SEPT. 10.

Senator Berry, of Arkansas, presented a petition of Pleasant Dale Farmers' Alliance, of Ozark, Ark., praying that Congress authorize the issue of an increased amount of currency. Ordered to lie on the table.

A Report From Maryland.

James Scalert, Calvert County, Md., says: "The crop of fruit in this County promises to give about one-half of the yield of 1891. This will pay the farmers better than a heavy crop, as there is only one-half of the labor and freight, with prospect for better prices. The tobacco crop is looking fairly well, but needs rain very badly. The corn crop is very poor. Wheat has been harvested, and if one can judge from the crop of straw it is a good crop."

A Good Sheep Country.

EDITOR AMERICAN FARMER: We have thousands of cattle, horses, and sheep here, and I read your sheep department with great interest. We do not have any foot rot among our sheep; at least I have never heard of any case. The ground is entirely different from the East. We will ship about 50,000 head of cattle this Fall, and nearly as many horses. They are now passing over the river every day.—FRANK MCCONAUGHY, South Dakota.

THE ENGLISH SPARROW.

The Rapid Increase of This Bird a Great Detriment to Farmers.

EDITOR AMERICAN FARMER: He who communicates useful and practical information through the medium of the press, whether of agriculture, manufacture, commerce, or any other profitable industry, performs a useful as well as a pleasing task, and one for which he should receive encouragement and praise. A writer who depicts the scenes presented to his notice in his daily walk in life feels a sensation of pride, and is richly rewarded when he receives applause for the benefit he labors to perform to his fellow countrymen. However humble our situation in life, we should not hesitate to give intelligence calculated to promote the interests of our beloved country. The evils that beset us, too, should be freely discussed, so that they may be rectified. We should ever be on the alert to do all in our power to make known facts that tend to promote the interests of the people of our glorious Union.

This is quite practical in the present day, when newspapers, magazines, and periodicals of every style are so numerous. This, then, seems to be a sure way to remedy an evil and accomplish a desired result through the columns of our popular and universally perused newspapers of our prominent cities.

I have not the slightest hesitancy in making my present appeal to pure wisdom and patriotism, feeling that I will touch a responsive chord in the hearts of many who, like myself, have suffered so materially from the losses occasioned by the wholesale destruction of the English sparrow, the gormandizer, pugilist, and robber. I trust your many and intelligent readers will give my present communication an attentive perusal, and will not only concur with me, but will influence those in high power to take prompt measures to rid our country of this destructive pest and put an end to the despotic reign of this bold intruder and warrior.

It has grown to be a National evil, and unless checked will equal in destructiveness the Egyptian Plague. Our own birds which are so highly prized as a gift from God, and afford us so much pleasure for their matin and evening carols, and are so beautiful to the eye for their bright and varied plumage, will be compelled to retire before these foreign impostors. The prolonged and melodious note of the little house wren will enliven us all day; the whip-poor-will will visit our porticos at nightfall, and the low, sweet note of the moaning dove will soothe us once more. It used to be that dreary Winter in the country was made brighter by the dear little snow birds hopping around outside of our dwellings; now it is useless to bid them come—

And pick up the snow, which in plenty has fallen to-day,
Before the south wind begins softly to blow and melt all their treasures away

The sparrows have conquered them; where they have gone to I cannot tell; they are not with us to eat the little crumbs of bread which were once so generously thrown to them by willing hands and kind hearts.

But the destruction of our lovely birds is not the only grievance we have to complain of from these foreign foes. Our corn and wheat fields are ravished by them; our fruit trees despoiled of their luscious, tempting apples, peaches, pears, plums, etc; our strawberry beds, our patches of Antwerps and Black Caps, which are so conducive to health, are devoured; so that our labor is lost; our expectations raised, only to be dashed to the ground. We toil for the sparrows, and they get them all. Our wives and our children are cheated out of their rights, and we are feeding our enemies everything within their reach. Our wheat crop, as well, goes for the benefit of those birds. Our gardens are literally destroyed by their picking and pecking at the vegetables as soon as they peep out of the ground.

The Agricultural Department at Washington states that there is no insect the sparrow destroys that our own birds do not live on, being by nature a graniverous bird and a greedy vegetarian. This bird promotes the increase of many injurious insects which our own useful and diligent American birds would destroy if unmolested. For example, the moth and web worm and the span worm, which are such defoliators to the shade trees of our cities and towns. Being so pugnacious and aggressive, these foreign enemies seem to delight in making war with all of our birds and occupying ground that naturally belongs to them, preventing them from performing the duties God has accorded to them of thinning out the injurious insects that fill the air by day and by night. It is positively known, too, that the sparrow scatters broadcast the seeds of noxious weeds so much dreaded by the farmer and the gardener.

This destruction has been acknowledged in his native land, and measures were adopted many years back to keep him in check. In one part of Europe clubs are formed which insure the destruction of 20,000 of these clamorous, filthy birds every year. One of the Baltimore papers states that in Ohio in 1889 40,000,000 of these destructive pests were going at large and destroying bushel after bushel of valuable grain. The rapid increase of this bold thief is almost incredible, and unless measures are taken at once to get rid of them neither farming nor gardening will be of any profit whatever. They can and must be conquered. The sparrows are not near so aggressive in Pennsylvania as they were several years ago, and it is simply because the people of the State have applied their energies in devising means to eradicate them. In that section our native birds have abandoned their usual hants, and have been observed nesting and brooding in the topmost branches of the tallest trees—to be out of the reach of the quarrelsome and hostile sparrow.

It is said that one pair of these energetic, prolific birds will increase in five years to the almost incredible number of 33,614 birds. Just think of this! Then, what is more important than to destroy them, and by destroying this vast army to protect the interests of man? It is to be hoped that our representatives in Congress will take this important matter in hand during the present session and make a bold determination to recommend to each State they represent the necessity of striking at the root of this evil. It is a matter of great importance, and their discretion and wisdom will doubtless prompt them to act at once. It is my earnest wish to place this evil before the public eye; to enable them to brighten the life of the farmer, the gardener, and the florist. Let our own birds be freed from the tyranny of the sparrow. They should be held sacred and be protected from the molestations of these crafty, cunning warriors, and allowed to clear the air of innumerable insects, or the atmosphere around us will scarce be habitable at all.

The farmers of this section call loudly for the remedy of this evil, and measures should be adopted at once, and our farms and gardens will "blossom as the rose," and we will reap a rich reward for our labors. The Legislature of each State should provide laws to remedy evils that are universally felt and complained of. The Legislatures are our authorized agents, and should employ every means to ameliorate our troubles, and it behooves them to look after the interests of their constituents.—M. B. EMORY, Centreville, Md.

Benj. F. Owen, Vermont, Ill., writes: "Our village is situated on quite an eminence overlooking a great expanse of fine country crowned with charming homes. We are a music-loving people. Our schools are our pride and a joy forever. The college grounds situated here are an ever fresh beauty and delight, with its lovely flower-lined walks and artistic seats. Our enterprise and business activity promise brilliant rewards."

THE LONE STAR STATE.

Mrs. Atchley Answers Some Questions Regarding the Advantages of Texas.

EDITOR AMERICAN FARMER: It has been so long since I made you a visit that you may not recognize me when I call, but trust you will excuse me when I tell you that I have been so busily engaged in my apiaries that I really have not had time to write. One of your correspondents writes:

> DEAR MADAM: I see your address in THE AMERICAN FARMER, and as I would like to have a little information about Texas, I thought I would write to you, supposing that you are like almost all who write for papers, ready and willing to do all you can to help one that is seeking information. I am a farmer and want to know if that is a good farming country and what kind of grain they raise there; do they always raise good crops there?
>
> Is it a good place to raise stock? Does it get very warm there in Summer? Do you have any snow in Winter? Do bees do well there every year? Is it a good chance in some of those large places for a milk dairy? Do you know of one who has a milk dairy to sell? I would like to get close to a good town where I could sell milk, keep some bees, and farm some. Does tame grass do well there? What kind of grass does best? If you and your husband will write to me and give me what information you can, I will be truly thankful, and it may be I can do as much for you some time.—E. E. MEADS, Latham, Ill.

The greater part of Texas is a good farming country. The principal grains raised are wheat, oats, barley, rye, and corn. No, farmers do not always make good crops here; but here, in north Texas, the farmers have always made enough to do them and some to spare since the country was first settled, and there has been no total failures since the late war. Yes, this is a fine place to raise any kind of stock. It does not get so hot here as in the Northern States, as we have a gentle breeze here in Summer that renders our days and nights pleasant, and one feels more comfortable here with a light blanket over them, especially in the after part of the nights, even during our hottest weather. I have not seen a snow in Texas for many years, but it does snow here. Some Winters we have light snows, but they are usually like the snows of April in the North—soon gone, and often never lie on the ground at all. Yes, bees do well most every year. I have been keeping bees in Texas since 1877, and have always taken some honey every season, and two-thirds of the seasons have turned out heavy crops of honey. Land is worth from $25 to $30 per acre in the best farming districts and close to railroads, but out on the frontiers or back from railroads land is cheaper, and unimproved land is, of course, cheaper here in the thickly settled parts, ranging from $10 to $12 per acre. Good farms rent for $3.50 to $4 per acre, and good tenant houses, pastures, all conveniently arranged for the comfort of the occupants, or one-third of the grain and one-fourth of the cotton. In most all of our cities a good dairy would pay well. I do not know of a dairy for sale, which is a good sign they are paying, and I think that a person with experience would do well right here in our little city of 10,000 inhabitants. Most all tame grasses do well here. Bermuda grass seems to do the best, as it spreads very rapidly, and in one season will spead thickly all over the ground when planted in hills from six to eight feet apart.

Peaches do well and begin to bear fruit the second year after setting the scions. Apples only do well in the sandy portions of the State. Pears and all other orchard fruits do well. Melons do well and are profitable. Fish are plentiful in nearly all of the rivers and creeks and easy caught. Game is plentiful back in the Counties not so thickly settled, and if you want your fill of shooting prairie dogs go to Archer and Baylor Counties, as you can see more than 100 at one sight at any time. Good farming mules are worth about $100; farm horses, $75 to $100; milk cows from $15 to $50. Society is as good as anywhere that I know of. Churches and schools are plenty, and all good people are welcome. No, we have no race war here. The blacks all know where the line is and do not cross it. They are good neighbors and peaceable, and the better classes are quite progressive and are doing well. In the cities they have their own physicians and teachers, and in fact they are badly needed in the South as laborers, as the South would be loser without them. No, I suppose we have better times here in the South than in the North during the present money panic, as we do not have the public works that the North has, and consequently the laboring classes do not have to depend on such sources. Our people seem to be happy and prosperous.

Farm labor is usually $1 per day and board. Now, dear friends, as my busy season is fast drawing to a close, I shall try and not delay your answers after this.—MRS. JENNIE ATCHLEY.

FLORIDA CROPS.

How Sweet Potatoes are Planted in Our Southern State.

EDITOR AMERICAN FARMER: It may afford better satisfaction to your readers by regular reports of what the farmers do here in Florida, viz., Lake County, rather than set forms of explanation of this seeming, other world to the people of the North.

July 4—We now put in our late and heavy crop of sweet potatoes. Plow deep furrows; list in this grass, pea vines, or tomato stocks; sprinkle on this some stable manure; plow shut and plow a ridge over it immediately. After a heavy rain push down with a stick the sweet potato vine, which is cut 15 to 18 inches long and doubled. If heavy rains follow in 24 hours, the potato will make, in good seasons, on rich land, 60 to 150 bushels to the acre. Plant next month the same way for "stand over," viz., grow in ground during Winter to dig next April and May. We have begun to eat from the early planting done in March. The planting done that early must be from draws out of a hot-bed. As soon as vines can be had for planting, draws are rejected. Potatoes do well on high ridges and on plowed-up ridges over deep furrows.

Now corn fodder is stripped and housed for Winter use. German millet, cut regularly when two feet high and less, for green feed, was sown on rich ground in March. This affords abundant feed in Summer. This is the best time to transplant orange, lemon, and grape fruit trees and to bud such as need it. The citrus family do best planted in July, because of the daily rains. Other fruit is best planted in February, when in a dormant state. This is harvest time of the White Niagara Grape, and of Japan plums and some late varieties of peaches. Cow peas need plowing for the last time; so do the peanuts and chufas. Each enters into hog feed, cows, horses, and for chickens, and are crops which yield, on sandhills abundantly, 20 bushels to 200 bushels to the acre, according to fertility and labor done to induce a vigorous growth.

As the thermometer has crawled up to 75 and 93 degress in the shade, we begin to think of rest, for we have worked incessantly since last September; surely we must go fishing and take some comfort. Nice big trout, one-half to 12 pounds, in our lakes; on the Gulf for mullets, a foot long. Or go coon hunting at night; they bother our corn not a little. Or opossum, who visit our hen roosts over-frequent and cut short our chicken pie and eat our fine, sweet watermelons; and the polecat, which shortens our egg batter. These varmints must be thinned out, that we may have rest. The palmetto bushes and scrub hummocks on lake borders, with the many gopher holes everywhere, give ample protection for the varmints to hide in and multiply. We are often compelled to go hunting of a night so hastily to save poor biddy from an untimely death that nightshirt and barefooted pedestrians must be excused, for haste is needful.

This is the most favorable time to raise chickens; forage is plenty; young grass, bugs, grass seeds, and cowpeas should be in abundance; besides, the holidays find them nice broilers with little expense, and bring big prices from sick "Yankeys" and Winter tourists to our State when chicken pie is worth $20 a week, while "biddy" is scarce at 35 to 75 cents apiece; but fish is our dish now.—D. H. ROSENBURG, Mascotte, Fla.

BEAUTIFYING THE HOME.

Climbing Vines for Ornamental Purposes.

EDITOR AMERICAN FARMER: There are many and various plants for climbing purposes. In selecting such, it is advisable to select the very best as regards beauty, shade, fragrance, etc. Among such we may mention the Mexican Glory, which is a rapid, beautiful grower; it is a very abundant bloomer all season long; the flowers are of an extremely beautiful purple; very showy and attractive.

The Moon flower is another beautiful climber. It has wondrously beautiful white blossoms, averaging five and six inches across, and emits a delicious fragrance.

The Blue Moon flower is similar to the white variety, except in color, which is an intense, deep-glowing blue.

The different varieties of honeysuckles are probably the most important of all climbing vines, as they furnish very beautiful flowers of a spicy fragrance.

The Golden-Leaved Honeysuckle is particularly noted for the golden lining of each leaf, which at a short distance looks as if the leaves were yellow.

Flexmosa Honeysuckle—The flowers are red, yellow, and white.

Hall's Japan Honeysuckle has a beautiful white bloom and evergreen foliage.

The Monthly Fragrant—Flowers yellow and white, very sweet scented, and blossoms for a very long time.

Scarlet Trumpet—Flowers large, trumpet-shaped, and a beautiful, bright red.

Sierra Honeysuckle—A very rapid growing variety; flowers purple and foliage evergreen. In the Fall of the year it is loaded with large, scarlet berries, as well as the beautiful blooms; very attractive and showy.

Honeysuckles can be easily grown from cuttings or seeds. The different varieties of honeysuckles forms a very beautiful hedge. Allow them to run on the fences. Place the plants every two or three feet apart.—S. L. WATKINS, Grizzly Flats, Cal.

Indiana Crops.

EDITOR AMERICAN FARMER: Your batch of AMERICAN FARMERS came duly to hand, containing a storehouse of practical knowledge. I placed them in hands of reading, practical men, who will appreciate them, and promise me as they get off some of their old papers will subscribe.

This (Henry) County and many others will make 18 bushels of wheat per acre, while some will average 22, and some 15; safe average for Indiana will be 18.

About one-half crop of fruit will be realized. Hay, oats, and rye did well. Pastures succumbed badly to heat and drouth. July will long be remembered for its great heat. For 25 days mercury registered 90 to 102° in the shade, causing many sunstrokes and paroxysms of brain. That you may compare East with Western prices, will give you leaders: Wheat, 46 to 50; corn, 40 to 50; hay, 7 to 8; oats, 30; rye, 40; potatoes, 65 to 75; eggs, 10a13; butter, 12½a25.

If any of your correspondents want to change locality, they cannot do better than come to Gas Belt, Ind. Good land, good water, clever people. Good, well-improved homes may be had from $50 to $80 per acre. Near market and railroad.

This is rather an off year for Indiana, and think if any of your Eastern farmers will come West they will be well pleased with it. Of course, there is a shortage in crops, but plenty of late rains will much improve the general outlook.—DAVID T. PRITCHARD, Raysville, Ind.

Transfers of Purebred Stock, American Southdown Record.

Essex "5" 5668—T. C. Douglas, Galt, Ontario, Canada, to F. G. Fuller, Seymour, Wis.

Augusta 5681 and Lois 5676—H. A. S. Hamilton, Fisherville, Va., to W. H. Frazier, Ninety-Six, S. C.

Dot 5677—H. A. S. Hamilton to S. C. Cathcart, Jr., Winneboro, S. C.

Warren Ewe "687" 5584 and Warren Ewe "761" 5585—John Hobart Warren, Housick Falls, N. Y., to John J. Glassner, Littleton, N. H.

Duke of Leeds VI. 5147—J. R. Harvey, Turlington, Neb., to F. D. Nunes, Chatham, Ill.

Lara 3110—Thos. Beer, Bucyrus, O., to C. C. Shaw & Son, Newark, O.

Woodstock 5560 and Noble Ewe "148" 5562—W. U. Noble, Brecksville, O., to W. C. Addis, Delaware, N. J.

Dale Ewe "29" 5850 and Dale Ewe "17" 5851—D. H. Dale, Glendale, Ontario, Canada, to A. Telfer & Sons, Paris, Ontario, Canada.

Shaw Ewe "1" 4296—John Jackson & Sons, Abingdon, Ontario, Canada, to Lester J. Bashford, Hollowville, N. Y.

Metler Ewe "4" 5997—S. A. Metler, North Pelham, Ontario, Canada, to Lester J. Bashford.

G. J. H. "391" 5576—G. J. Hagery & Sons, Hanover, O., to Jacob D. Smith, Sunnyside, N. J.

Romeo 5422—W. W. Flinn, Chetek, Wis., to C. L. Brekken, Chetek, Wis.

Martin Ewe "18" 5639 and Mrtin Ewe "23" 5644—Wm. Martin, Binbrook, Ontario, Canada, to Geo. McKerrow, Sussex, Wis.

Normal 6017—S. E. Prather, Springfield, Ill., to I. S. Rupert, Bloomington, Ill.—S. E. PRATHER, Secretary, Springfield, Ill.

The Canadian Government is pointing out a few prosperous things to the mother country. British Columbia has had a phenomenal salmon run, and the pack promises to be one of the largest on record. Manitoba has a big harvest, the quality of which is turning out exceedingly good. Prince Edward Island, New Brunswick, and Nova Scotia report good crops and a large increase in the output of dairy products, from which the farmers anticipate much profit.

THE FISHERIES.

And some of the More Interesting Smaller Buildings.

A large circular structure, with a long arm stretching one to the east and one to the west, at the end of each of which is a smaller circular room; this is the building set aside for the fisheries.

The exterior is very imposing, with a towering central dome connected to the two smaller ones by long, white colonades.

The main building is devoted to the display of all varieties of fishing boats, hooks, lines, nets, and all other things pertaining to fishes and fishing.

Each State has large cases of cuts of famous fishing grounds and native fish. The center of attraction seems to be a skeleton of a whale. It is suspended high in the air and held in place by heavy steel plates.

In the one arm only the States of Wisconsin and Pennsylvania have live exhibits. These collect around them a large, eager throng. The Pennsylvania display is especially attractive. There is a rustic wall made of rough bark, and at short spaces, like port holes, are aquaries set in, with different varieties of fish of different ages in each. There is a family of brook trout only six months old and another only two. The remainder of this room is given to cases of mounted fish and models. There are all kinds of fish-eating birds and aquatic animals stuffed.

At the other end you find one of the most novel sights to be seen. The entire room is lined with glass cases, curved to suit the walls, and filled with live fish; and not only that, but a second and smaller circle is within, and in the center of all is a rustic fountain, around the base of which sport fishes, big and little, of all colors and varieties. Nowhere is there always a greater crowd than around these cases.

In the same neighborhood is the Swedish building. Within and without it is foreign in appearance. There are fine displays of their metal works, cutlery, firearms, and jewelry; porcelain ranging in quality from delicate china to heavy stoneware.

Furs are conspicuous, and the burnt woodware is attractive and very reasonable in price.

Brazil has a large house only recently completed. The first floor is given up to the display of coffees. Long rows of tables filled with glass jars hold hundreds of varieties of coffees. The second story is given to beautiful airy parlors. From the four corners of this second floor are long-winding staircases leading to the roof, from which is a good view of the north end of the grounds.

Near is the State building of Turkey, in which are cloths and rugs of most quaint designs. The room is small, but the wood carving and interior decorations are most exquisite.

In the same vicinity are the Costa Rica and the Guatemala buildings, where the ladies go to sample the various kinds of drinks for sale.

The German building has vast collections of printings and engravings and etchings, which are interesting, as they show the evolution of these arts. It has the finest collection of ecclesiastic furnishings to be seen on the grounds. The glass windows and embroideries leave nothing to be added.

The different State buildings of the Union seem to divide themselves into two varieties. There are those which are furnished as club rooms, as New York and Wisconsin, with no attempt at display of products, and then the others, as Iowa, Colorado, and California, which, aside from their reception-rooms, have exhibits.

Illinois has naturally the largest building of any of the States. As it stands at the head of one of the lagoons, it compares favorably with some of the main buildings in size. It has a large rotunda room, and on the second floor are commodious parlors. The remainder of the building is devoted to exhibits in all branches. Schools, arts, mechanics, sciences, are all there. The agriculture exhibit is much admired, and all go to see the bit of landscape on the wall, picturing a farmyard and buildings, made entirely from grains.

The New York State building has attractions peculiar to itself. It is very large and very elegant in its fittings. It is a fac-simile of the old Van Rensaelaer mansion. The large portals at the top of a long flight of steps, and the massive marble stairs within, give it a stately appearance.

On the roof are shaded seats from where a fine view of the lake may be had. This a favorite rendezvous for sentimental couples and tired tourists.

Near this is the Pennsylvania building, in the parlors of which are some of the most beautiful pieces of women's work imaginable. This, like almost all the other houses, is well supplied with musical instruments for the entertainment of the guests.

Louisiana has a very Southern house. It has a fine display of woods and many antiques; bamboo is used much in finishing.

Colorado displays her ores and sells her mineral water, and California has an imitation Spanish Mission, where she does herself proud in her fruit and other products. This building is one of the few to have an elevator. On the roof is a good cafe, where meals are served promptly at reasonable prices.

With many the Iowa building is the favorite of all. It has one large room finished in the same style as the famous Sioux City Corn Palace. On the walls are panels upon which are produced in the most lifelike manner heads of animals, and on one is the shoulders and head of a young woman. Iowa knew how to make itself agreeable to a big crowd when it engaged the services of the Sioux City band. It is one of the best bands at Jackson Park, and to it, in no small degree, is due the popularity of this building.

Connecticut has a model New England home. The panes of glass are small in all of the windows and doors, and everything about suggests a snug home feeling. The little low bedrooms on the second floor are carpeted in home-made rag carpets, and curtained with white muslin, edged with knitted lace.

On the curtained beds are the fancy bed quilts in most gorgeous designs on a white ground, like the ones our grandmothers spent their maidenhood piecing toward their "settin' out."

There are uncompromising high-backed chairs here and settees and deep window sills. In the corners of the dining-room are china closets, holding historical pieces from old New England families, and around the room, well toward the ceiling, is a shelf containing a representative china collection of Colonial days. To many this has the greatest attractions of any of this class of buildings.

The State of Washington has in front of its building a single tree that can float the flag above all the others. It is a fir trunk, and for size is very remarkable. The foundation of the building is made of logs. One man, when asked what was to him the most remarkable thing seen at the Fair, said: "That long bottom log in the foundation of the Washington building." This State has made a fine showing at the Fair, and too much credit cannot be given to it and other States so far away that have done so much to make the Fair the success that it is.

If time permitted I would be glad to go on telling of the attractive rooms of Michigan, Nebraska, South Dakota, and a host of others. All are interesting and all are especially pleasing in some especial way.

The Illinois women have a building with a drug store in one end and an emergency hospital and doctors' offices in the other. Ten years ago it would have been rather a difficult matter to have gotten two graduate pharmacists, trained nurses, and three physicians, all women, to take charge of the different branches of work carried on in this building, but to-day there they are. If a woman faints from over exhaustion she is taken to these parlors and restored, and all by women.

It is a pleasure to look in upon them and read happiness and contentment from their bright faces. They have all succeeded in what they set out to do.

There is still some halting on the part of the Commissioners in regard to the appointment of judges, as there is yet some rivalry between the men and women as to the members to be appointed by the respective boards.

The most of the work of judging is, however, done, and the judges have gone home. Those on the fine arts adopted a method that was peculiar, unique, and rapid. There were 40 of them, and they would order a room cleared of visitors, and they would then shut themselves in and look about them. In a few minutes someone would nominate an artist as first, and the name would be voted upon, and then the other nominations would follow, and so on around all the room of the entire art exhibit.

The success of the Fair grows more and more upon us, and the great increase in numbers assure us that the last months will be the greatest.

So far the 4th of July has been the greatest day. Then the State days of Illinois and Wisconsin. Probably the greatest of all is yet to come, when on the 9th of October Chicago meets to celebrate her resurrection from a bed of ashes.

Fashion's Fancies.

The new sailor suits are made of white material embroidered with blue anchors, instead of the reverse style which has been so much worn in past years.

Costly materials were never more used than they are to-day. Rich brocades trimmed with soft laces are made to simulate historical styles. Fringes are to be worn more than last season, and black lace as much as ever.

It seems an established fact that skirts are to be draped.

"Butterfly" bonnets are the head-gear of the woman of fashion.

The effect of broad shoulders holds, and the sloping effect is increased by draperies and lapels.

The woman who wishes to be considered thoroughly well-dressed does not make herself conspicuous by undue width of sleeve or too spreading shape of skirt.

Mantles and jackets are as handsome inside as outside. For example, a jacket in green cloth has a pelerine or deep collar of gathered emerald green velvet, and both jacket and pelerine are lined with rich rose-colored silk.

The French traveling costumes prepared for use in late August and September are the simplest imaginable, the severity of the cloth skirt and jacket being relieved merely by the dainty chemiset or vest of silk. The plain costume is made up in dark-blue vigogne. The skirt has five rows of a very pretty galon in blue, of a lighter shade. The chemiset is of surah in the same shade of light blue, and is held to the waist by a draped girdle of the same. The sleeve of the beautifully cut coat is cut in one piece. The skirt of the coat is quite full in the back, following the lines of the fulness of the bell skirt.

Mignonet green is to be one of the most popular shades for the coming season. Another strange color is also to become popular. It is called carmelite, and is a soft brown that harmonizes with almost any color. Red will be worn in many forms of combinations. Navy blue is declining in popularity.

A Blouse Waist.

A pretty waist is made of silk gathered back and front and trimmed with lace in front in the form of a figaro.

The collar is covered by loose, irregular folds of the silk.

The sleeves are tight-fitting below the elbow and are covered with the lace. Above the elbow they are very full. The skirt covers all below the waist line.

A Gown for a Slender Form.

The one in the cut is made of black silk muslin and trimmed with black lace and insertion and black satin.

The shoulder capes and the girdle are of black satin; the rest is of muslin in any soft becoming color.

If the Fall styles bring in the new sheer fabrics that are expected, this model may be readily adapted. If the gown be made of silk, ribbon velvet would be pretty in place of the lace.

The large bow, made of two loops at the bust, is very becoming to a slight figure. The dress is not "the stout lady's friend."

Pleased With Her Dress.

I received the dress last evening, and was pleased with it. It is little long in skirt on back, but can easily change that. Many thanks.—MRS. H. C. JUDY, Hopedale.

Stitches.

[Contributions solicited from all readers.—ED.]

WIDE LACE EDGE.

Make 96 chain.

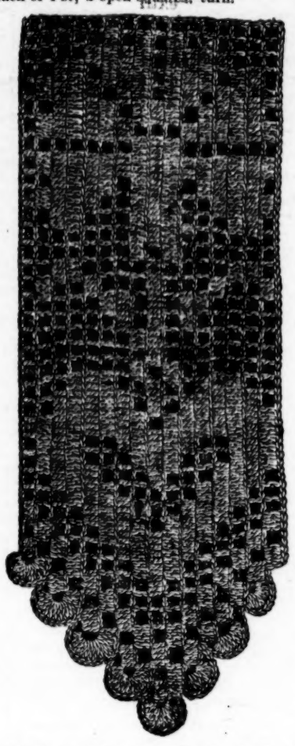
First row—Miss 4, 1 tr in each of next 4 ch; 2 ch, miss 2, 1 tr in each of next 4 ch; *2 ch, miss 2, 1 tr in next; repeat from *27 times, making 28 open squares in all; turn.

Second row—5 ch, 1 tr on tr; *2 ch, tr on tr; repeat from *twice more; 2 tr under 2 ch, 1 tr on tr; **2 ch, miss 2 ch, 1 tr on each of next 4 st; repeat from **twice more; then 4 open squares; 1 tr on each of next 3 st (which will give 4 tr in succession), 7 open squares; 1 tr on each of next 9 st; 3 open squares; 1 tr on each of next 3 st; 2 ch, 4 tr under 4 ch missed at beginning of first row; turn.

Third row—8 ch, miss 5 of the 8, 1 tr on each of the next 4 st; 2 ch, miss 2 tr, 1 tr in each of next 4 st; 3 open spaces; 1 tr on each of next 15 st; 7 open spaces; 1 tr on each of next 3 st; 2 open squares; 1 tr on each of next 12 st; 2 ch, miss 2, 13 tr; 3 open squares; turn.

Fourth row—5 ch, tr on tr; 2 open squares; 13 tr, 2 ch, miss 2, 13 tr; 2 open squares; 1 tr on each of next 3 st; 3 open squares; 21 tr, 3 open squares; 1 tr on each of next 3 st; 2 ch, 4 tr under the ch missed in last row, turn.

Fifth row—8 ch, miss 5, 1 tr in each of next 4 st; 2 ch, miss 2 tr, 1 tr in each of next 4 st; 3 open squares; 1 tr in each next 9 st (10 tr in all); 2 ch, miss 2 tr, 1 tr in next; 2 ch, miss 2 tr, 1 tr in each of next 10 st; 5 open squares; 1 tr in each of next 3 st; 4 open squares; 1 tr in each of next 9 tr; 2 ch, 1 tr on each of next 10 tr; 2 ch, miss 2 tr, 1 tr on each of 4 st; 2 open squares, turn.



Sixth row—5 ch, 1 tr on each of 10 st; 2 ch, miss 2 tr, 1 tr on each of 7 tr; 2 ch, 1 tr on each of next 7 tr; 6 open squares; 1 tr on each of next 3 st; 4 open squares; 1 tr on each of next 9 tr (10 tr); 3 open squares; 10 tr; 3 open squares; 4 tr; 2 ch, 4 tr under ch missed at beginning of last row; turn.

Seventh row—8 ch, miss 5, 1 tr on each of next 4 st; 2 ch, miss 2, 4 tr; 3 open squares; 10 tr; 3 open squares; 10 tr; 4 open squares; 7 tr; 7 open squares; 4 tr; 2 ch, miss 2, 4 tr; 2 ch, miss 2, 10 tr; 2 open squares; turn.

Eight row—5 ch, 16 tr; 2 ch, miss 2 tr, 22 tr; 4 open squares; 4 tr; 1 open square; 4 tr; 2 open squares; 10 tr; 3 open squares; 10 tr; 3 open squares; 4 tr; 1 open square; 4 tr under 5 ch; turn.

Ninth row—8 ch, miss 5; 1 tr in next 4 st; 2 ch, miss 2 tr, 1 tr in each of next 4 st; 3 open squares; 10 tr; 3 open squares; 10 tr; 1 open square; 7 tr; 1 open square; 19 tr; 1 open square; 19 tr; 1 open square; 4 tr; 5 open squares; turn.

Tenth row—Like eighth row, ending with 4 tr under 2 ch between 2 groups of 4 tr, instead of 5 ch as heretofore. The following rows end the same way, and the next rows begin with 5 ch.

Eleventh row—Like seventh row.

Twelfth row—Like sixth row.

Thirteenth row—Like fifth row.

Fourteenth row—Like fourth row.

Fifteenth row—Like third row.

Sixteenth row—Like second row. Repeat from first row. Across each point make 10 tr under each 5 ch, 1 d c in each shell following.

CHILDREN'S CORNER.

How to Care for the Baby.

EDITOR FARMHOUSE: This is a subject of great importance to mothers all over the country, especially during warm weather, and I will tell a few things I have learned from observation and experience, especially the latter. In the first place, dress the babies as cool as possible during the heat of the day. A baby six months old should wear a soft woolen band over the bowels, a knit shirt, a napkin, and a muslin slip. I pity the little ones who are sweltering in flannels and broken out with heat. A great many babies would be healthier and happier if allowed to roll about on the floor and play with their bare feet.

Do not neglect to give them a fresh drink of water every hour or two, especially if they are teething. Many children suffer from thirst because they are unable to make their wants known.

If a mother cannot nurse her baby, or if her milk is lacking in nutrition, which is often the case, she will find lactated food the best substitute made. Children like it, and it always agrees with them. Some of the fattest, healthiest babies I have ever known were raised upon it. Cow's milk is almost sure to disagree with a baby, as the cows eat almost all kinds of weeds and drink water that is far from being pure.

Feed the child at regular intervals, gradually increasing the quantity as he grows older. Under two months of age, he should be fed every two or three hours during the day, and not quite so often at night. At six months, five or six times during the 24 hours will be sufficient. After he has passed his sixth month a very little boiled rice, seasoned with salt and butter, may be given in addition to the lactated food; or if they like it, feed them sago or tapioca, being careful not to give too much. At 10 months of age ripe fruit may be given in small quantities. If the baby is fed in this way it is very seldom that his bowels will give any trouble, even while teething, in hot weather.

Give him a bath in lukewarm water every day, and he will enjoy it very much. Teach him to take his sleep regularly. A great deal of sleep is necessary for children, as the processes of nutrition go on best during rest.

The four things most essential to a child's well being are plenty of good food, plenty of water to drink and for bathing, plenty of pure air for his lungs, and plenty of sleep. Without an abundance of these perfect health is impossible, and there is nothing in the world so beautiful as the face of a perfectly healthy baby.—MARY.

The Importance of a Pleasing Address.

EDITOR FARMHOUSE: Did young people but realize the importance of a pleasing address and cultivated manners they would try and perfect themselves in those arts to a greater extent than most of them do. Nothing so helps a young person when he or she comes in contact with the world as a pleasant manner. But after all, true politeness is but the outcome of a kind heart and unselfish spirit—putting self last, and being kindly considerate of those around you—a generous nature and a heart filled with love for your fellow-beings. Young people should begin by cultivating this spirit in the home circle, and by practicing all the little courtesies that makes society so delightful.—EMILY COONS, Nevis, N. Y.

Science Applied to Food.

One of the most interesting and instructive buildings to visit at the Fair is a workingman's cottage, erected and conducted by the Commissioners of New York State.

It is a two-story frame building, with a hall, parlor, kitchen, china closet, and bathroom down stairs, and three bedrooms, with a good-sized closet from each, up stairs. It was erected at a cost of $1,000, and $10 a month is the rent settled upon.

Statistics show that the average workingman spends 60 per cent. of his income for food. For three months Miss Catherine B. Davis, a Vassar graduate, has been carrying into practice some of the theories she has evolved in her special studies in the chemistry of foods.

She has been stopping this Summer to prove the truth of her doctrine. In this cottage has lived a family consisting of man, wife, and four children under 10 years of age.

Here Miss Davis has had prepared and cooked on hygienic principles foods containing the necessary elements for healthful bodies.

We give the bill of fare for two days, with costs:

JULY 9, 1893.

Breakfast—Rolled oats, milk and sugar, bread and butter, fried potatoes. Cost, 14 cents.

Dinner—Bean soup, fried ham, boiled potatoes, bread and butter. Cost, 23 cents.

Supper—Corn meal with sirup, bean soup (left from dinner), with bread. Cost, 8 cents.

JULY 19, 1893.

Breakfast—Oatmeal, milk, and bread and butter. Cost, 10 cents.

Dinner—Stewed mutton, boiled potatoes, string beans, bread and butter.

Supper—Hash (from meat and potatoes from dinner), apple sauce, bread and butter. Cost, 13 cents.

In these meals there are no luxuries, but all of the desired foodstuffs are employed in preparing the meals.

The average cost was 55 cents a day.

An income of $500 is distributed in the following way:

Rent, $10 per month	$120
Clothing	100
Food	200
Fuel	30
Miscellaneous	50

These estimates are made for a family of a man, wife, and four children under 10 years of age.

A greater part of the estimates made have been tested, and have been proven perfectly practicable.

Women and Their Bank Account.

"I cannot understand," remarked a teller in an up-town bank recently, during one of the lulls in business, "why the more sensible young ladies' school in the country do not add to their curriculum a course, however brief, in banking and accounts. Few girls have any practical idea of such things, and it is really extraordinary how ignorant are many women with property about the details of its care, and though they can draw a check they seldom know how to ascertain their balance or prove it. I know of a wealthy woman who keeps an account for convenience in a New York bank during the Winter and closes it out in the Spring when she leaves the city. Last Spring she visited a certain large jewelry store and purchased a wedding present for a friend, giving in payment her check for $75. In doing so she said that she wished the check deposited immediately, as she closed her bank account when she left the city.

"Two days later she called at the bank, drew out all the money to her credit, and calmly left the city. The Summer passed, and she received no acknowledgement of the wedding gift, but her perplexity at this turned to horror when on returning to the city she learned that the present had been sent C. O. D. Investigation showed that the check in payment of the gift had reached the donor's bank the day after she had drawn out her balance, and of course it had been thrown out. The jewelry-store people, instead of looking up their customers, which in this case would have been an easy task, stupidly sent her present 'collect,' and forced a situation very hard to explain, but which arose simply from an inability to subtract the total of drafts from the total of deposits."—*New York Tribune.*

Medicine in the Middle Ages.

In an entertaining article in the July *Nineteenth Century* on medieval medicine, some curious prescriptions are given. A person whose right eye was inflamed or bleared was recommended to "take the right eye of a Frogg, lay it in a peece of russet cloth, and hang it about the neck." The skin of a raven's heel was prescribed for gout. Diffident young men will be interested in this: "If you would have a man become bold or impudent, let him carry about him the skin or eyes of a lion or cock, and he will be fearless of his enemies; nay, he will be very terrible unto them." The tendency to reticence, which is so common a fault of parliaments, municipal councils, etc., might be cured by this treatment: "If you would have him talkative, give him tongues, and seek out those of water-frogs and ducks, and such creatures notorious for their continual noise making."

If a man has a "sounding or a piping in his ears," he was recommended to put oil of hemp seed, warm, into them, "and after that let him leape upon his one legge upon that side where the disease is, then let him bowe doune hys eare of that syde, if haply any moysture would issue out." The remedy for nose bleeding was to "beat egge shales to pouder, and sift them through a linnen cloth, and blow them into hys nose. If the shales were of egges whereout young chickens are hatched, it were so much the better."

Powdered earthworms mixed with wine were recommended for jaundice. Toothache might be relieved by an application of the fat of "little greene frogges," or of the "graye wormes breathing under wood or stones, having many fete." Frogs and toads were favorite remedies, especially when treated in some grotesquely barbarous manner. Popular prejudice against medical science to-day is declining, and will probably disappear altogether; but in the middle ages it seems to have had a very rational basis. —*Toronto Globe.*

For the Home Table.

OYSTERS.

Six oysters, wiped, salted, and peppered and browned in hot butter and served on toast go far to make a cheap and substantial meal at small cost. Prepare your toast and a thickened milk sauce as for milk toast. Cut the bread into three-inch diamonds and sprinkle on a few crumbs of finely-chopped celery, place an oyster on each piece, and pour on the hot sauce.

LITTLE PIGS IN BLANKETS.

Season large oysters with salt and pepper; cut fat bacon in very thin slices; wrap one oyster in each slice and fasten with toothpicks; heat frying pan and put in the little pigs; cook just long enough to crisp the bacon, about five minutes; place on slices of toast; cut small and serve immediately; do not remove the skins; garnish with parsley. This is a nice relish for lunch or tea.

TO MAKE NICE FISH BALLS.

Take one cup cooked salt fish, one pint mashed potatoes, one teaspoonful butter, one saltspoonful pepper, one egg. Shape into balls, dredge with flower, and fry in bacon fat.

Put the fish to be used on a stove in a saucepan of cold water and let it cook gently, never boiling, as that makes the fish hard. After about half an hour the fish will be sufficiently freshened to use. Remove and shred fine.

Mash the potatoes, freshly boiled for the purpose.

The egg should be used as for croquets, in binding the mixture together. Have a platter well dredged with flour, put a spoonful of the mixture upon it, and roll lightly into a flat cake or cylinder-like croquets. A flat cake browns better in a little fat than the round or cylinder shape. Dredging with flour gives a nice brown coat.

Fry out some thin slices of breakfast bacon and use the fat for frying the fish balls. Have enough to cover the bottom of the pan and brown quickly, first on one side and then on the other. The little crisp bits of bacon are first taken up on the platter upon which the fish balls are to be served. Drain the fish balls upon paper.

A mayonaise dressing is a great improvement to this dish.

Stewed fish with tomato sauce is a favorite with gastronomes and may be prepared as follows: Put a can of tomatoes in a saucepan, with a teaspoonful of finely chopped onion, a dessert spoonful of salad oil, and a little cayenne pepper and salt; simmer for half an hour; then lay in the fish—a pair of flounders (usually called soles)—adding a little water if there be not sufficient liquor to cook them. Beat up the yolk of an egg with the juice of a lemon, and five minutes before dishing the fish pour it in, and shake the saucepan to prevent curdling.

SALMON LOAF.

The following is a well-tried recipe and is sure, if closely followed, to turn out well.

Take two pounds of canned salmon. Drain off the oil, remove all bits of bone, skin, and dark pieces of the fish. Break into crumbs the size of large peas. Chop one tablespoonful of parsley, and add to it four tablespoonfuls of butter with salt and red pepper to please the taste. Stir in half a teacupful of bread crumbs, add the eggs, four in number, well beaten, and last of all the salmon. Stir lightly together with a fork or wire spoon, so that the mass will not become heavy. Roll into a loaf, wrap loosely in one thickness of cheese cloth and steam one hour.

The sauce preferred for this is made by boiling one cupful of milk one minute, adding to it one tablespoonful of melted butter. Cook these till the flour has no longer the raw taste, and then upon taking it off add four tablespoonfuls of catsup.

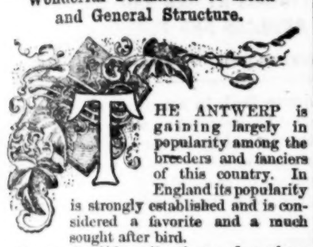
PUTTING UP PEACHES.

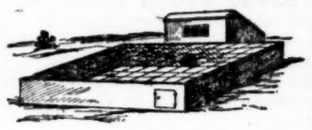
For peach marmalade a rich, yellow peach is preferable. Peel the fruit carefully, either by dipping them in boiling water or with a knife, and cut them in half. Crack two-thirds of the pits, take out the kernels, blanch them, cut them in strips, and lay them in cold water while you cook the peaches. Put the peaches over the fire in the preserve kettle, with about three-quarters of a pound of sugar to every pound of fruit. No water should be added. The fruit and sugar should stand at the back of the stove for a moment to draw out the juices, as peaches for marmalade should be very ripe and juicy. A slight bruise in some specimens of the fruit is not important enough to cause them to be rejected for marmalade, as they certainly would have to be in case of brandy fruit. A marmalade is a dark-colored preserve. As soon as the sugar is thoroughly mixed and becomes moistened by the fruit bring the kettle forward and stir the fruit and sugar together until they boil, using a wooden spoon so as to mash the peaches as much as possible. Continue stirring for 20 minutes, when the whole should be a thick, even paste. If it seems lumpy, put it through a puree sieve, return it to the fire, add the kernels, and let it cook five or 10 minutes longer, taking care to stir it all the time. Test a little of it by cooling in a saucer after it is strained. It should be thick, but is seldom thick enough to cut, because of the lack of gelatine in peaches. Pour it into straight-sided marmalade jars if possible, or if not, into bowls. When it is perfectly cold cover it with brandy papers and seal it up.

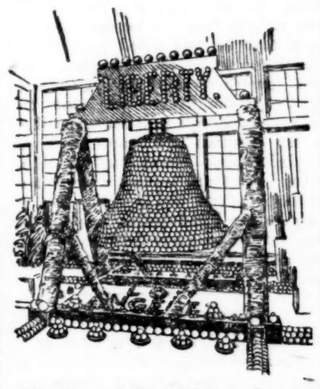
Peach jelly is one of the most difficult jellies to make sure of, and except from an economic point of view, it is hardly worth while to prepare it. The best peach for jelly is the small "blood peach," which is not very easy to find in market in these days, and the best jelly is made from the peelings alone, or with the addition of the peelings. When you are peeling a large number of peaches with a knife a very excellent jelly may be made of these peelings solely, but it requires a large quantity.

A small peach may also be utilized for this purpose, provided it is rich in flavor, of the red and white or red variety, like the blood peach. Cut the peaches in small bits with the skins, taking out the pits and saving about one-half of them for the sake of the kernels. Put the peaches or peach skins, whatever you intend to use for jelly, in a stone jar. Cover them tight and set the jar in a kettle of boiling water, reaching within an inch or two of the edge. Let the fruit cook in this way for about an hour. At the end of that time strain the contents of the jar through a cloth, and for every pint of juice obtained weigh out a pound of sugar. Put the juice over to boil, and let it boil down for about 20 minutes. Then add the sugar, which should have been heating hot in the oven, and continue the boiling for about five minutes. Test the jelly, and if it has formed put it into jelly bowls. If not, boil it a little longer until it is ready. If you use the kernels in the jelly, they should be blanched and added when the sugar is added. They give a pleasant flavor of the ripe peach to the jelly, and they look pretty held in the clear, transparent mass. If you prefer, however, and yet like the flavor, you can strain them out of the jelly when it is put in the bowls. Seal the peach jelly up with brandy papers as soon as it is cold.

Any well-flavored peach of moderate size is suitable for pickling. A yellow peach is somewhat preferable, because it is apt to be richer. Do not use a hard, half ripe peach for this purpose, as is so often recommended, but firm, dead ripe fruit. It is not necessary to peel the peaches. Allow half a pound of sugar to every pound of peaches, and a quart of vinegar to every five pounds of sugar. Allow, also, two ounces of whole cinnamon and one ounce of whole cloves to every quart of vinegar used. Stick the cloves in the peaches, allowing about two cloves to each peach. Boil the sugar and vinegar together for about five minutes. Cook the peaches in this vinegar for about 10 minutes, putting in as many as you can at a time without crowding them. They should be tender enough to be easily pierced with a broom splint when they are done. Put them into stone pots, or, if you prefer, into glass jars. Add the cinnamon to the vinegar, and pour it over the peaches, dividing the cinnamon equally among the jars. Set them away in a cold preserve closet.—E. L. S.







THE ANTWERP.

A Beautiful Wattled Pigeon and its Wonderful Formation of Head and General Structure.

THE ANTWERP is gaining largely in popularity among the breeders and fanciers of this country. In England its popularity is strongly established and is considered a favorite and a much sought after bird.

Those who "fancy" other and perhaps more showy breeds, cannot but regard with much curiosity and admiration the extraordinary development of head and beak that are to be seen in this variety. There is much difference of opinion as to the length of face that should distinguish the "short" from the "medium" and the "medium" from the "long." Measured from the center of the eye to the end of the beak, a short-faced Antwerp of average size and proportions should measure about one and three-eighths inches, a medium-faced bird about one and five-eighths inches, and a long-faced bird above one and three-quarters inches.

Taking the "short-face" first, the points and properties are given by Mr. Richard Woods, as follows:

SIZE large, but not runtish.

SHAPE compact, broad in chest, with shoulders prominent, and back broad and flat.

CARRIAGE upstanding.

HEAD broad and elongated, showing prominence of outline at back of skull, perfectly free from angles, and well arched when viewed in profile.

EYE bold, orange or gravel in color.

BEAK short and thick (the lower mandible especially should be stout).

BEAK WATTLE broad and compact in shape, even in texture, and not overlapping at the sides.

EYE WATTLE small, hard, circular, and of fine texture.

THE PRINCIPAL COLORS are silver duns or mealies and red chequers. There are also blues and blue chequers, but they rarely come up to present-day requirements in head and beak properties.

The medium-faced bird is of similar size, shape, carriage, etc., but the head should be longer, thus admitting of greater "sweep of skull," which should be slightly more oblong in shape than that of its shorter-faced brother. With this exception, the medium-faced Antwerp is in every respect similar to the "short."

The long-faced should be larger in head than either the short or medium, and the formation should also be more elliptical; *i. e.*, embrace a greater radius of curve when viewed in profile. A stouter beak and a little more wattle should also be looked for in the long-faced variety. Other properties correspond with the "short and medium."

Silver duns or mealies and red chequers are practically the only colors to be now met with in either "medium or long."

"In breeding Antwerps," says Mr. Woods, "the great desiderata are head and beak. Indeed, so important and characteristic are these properties that the Antwerp would not, I think, be inaptly designated the bull dog of the pigeon fancy. Many marvelous-headed birds have from time to time been produced, and whilst fully granting that it is desirable to maintain massiveness of head and beak, I am of opinion that greater consideration should be given to color, carriage, length of feather, and general contour. There is no doubt that when greater perfection in these points is attained, the Antwerp will rush to the front with startling alacrity."

INCUBATORS AND BROODERS.

Experience of Those Who Have Raised Chickens by Artificial Means.

Em Bartmess, of Rich Woods, Ill., writes that her best hatch was 164 out of 200 fertile eggs. The temperature between 103° and 105°.

Never used a brooder; always aimed to set eight or 10 hens and have them hatch the same time my incubator does. Out of my best hatch I smothered 75.

The following is my experience with the incubator:

1. 138 chicks out of 170 untested eggs.
2. (1) The heat was from 102½ to 103½; (2) most of the time at 103 or a little above.
3. No. We use the Invincible Hatcher, and are satisfied with it.
4. No. We use the Saumenig Brooder.
5. Do not know. We sold most of them at 60 cents each. Hope these answers will benefit some of your poultry raisers.—E. ALPHONSO & Co., Washington, Ill.

D. C. Thorpe, Decorah, Iowa, says: I am pleased that you are trying to impress upon your readers the advantages of artificial methods in hatching chicks. I have had several years of experience in raising chicks, and will answer your questions in the order asked.

1. My best hatch was 99 per cent. of fertile eggs.
2. The hatch was secured at a temperature of 102°.
3. Have never used a home-made machine.
4. The only brooder I ever used was of my own make, using hot air to heat it; but if you wish, will write an article on my methods of rearing chicks, and give description of my hot-air brooder.
5. Lost two chicks and sold the remainder for 50 cents a chick.

The best hatch I ever had, B. F. Denson, Morencie, Mich., was 80 per cent. of fertile eggs, or 60 per cent. of all the eggs in the incubator. Kept mostly at a temperature of 100° to 103°, reaching 107° once for a short time. One of my neighbors, with this same kind, hatched 94 per cent. this Spring in one hatch made. I have used home-made incubators, never getting over 50 per cent., and I consider them a waste of care, time, and trouble in proportion to the manufactured machines. Don't waste time, care, and trouble with a home-made one when you can get a 200-egg machine that is self-regulating, and controls itself nearly perfect. I raised about 80 per cent. of the chicks hatched. Made my brooder of a dry goods box 2½ x 4 feet and 3 feet high, cutting the top of the box off, sloping, and put on a board roof, movable. About half way up the box I put in a tight-matched floor; cut a two-inch hole in middle of floor, and around the edges of hole nail on a tomato can extending up. Have your chicks on this floor with air holes, and two holes running out to a bridge down. Place a lamp under the floor and under a dripping pan of water, and let the hot air rise among chicks.

Mr. C. J. Cooper, of Beverly, Kan., writes that his best hatch from 220 eggs put in machine was 163 chicks. I made an effort to keep the temperature at 103°, but it often run one or two degrees above, and often as much below. On rare occasions it was up as high as 107° for a short time.

I have never tried a home-made incubator. I have no doubt I could make one that would hatch, but I can buy one cheaper than I can make one.

I have only tried the home-made brooder until I got my order filled for the manufactured article. It won't pay to make such things, any more than it will pay to make a chair, a table, or a bed, if you know where to buy a good article at a low price.

I raised about 150 chicks out of my best hatch. I have not sold any of them yet.

This year I bought a new 200-egg machine, fired it up on the 6th of January, 1893, and kept it going until about the 4th of July—eight hatches. I think we have raised to broiler size about 100 to each hatch, not counting the youngest two or three hatches, they not being large enough for broilers yet.

I have sold enough to pay for my incubator and brooder, and also a $20 brooder house. I have now on hand about 300 chicks, half of which are pullets, the finest I ever saw. My first hatches sold for $4.50 per dozen net. Later I got on the same market (Denver, Colo.) about $2.50 net. The last I sold I sent to the World's Fair. I was unable to figure out more than 58 cents per dozen from the returns received from there.

The best hatch that I have had was 190 out of 280 eggs. The temperatue run from 100° to 106°. I aim to keep it at 103°. I have never used a home-made incubator or brooder. I could not tell you how many I have raised out of my best hatches, as they all run together. I have taken out five hatches this Summer. I have not sold any yet. I caponize all of my cockerels. They are doing fine, those that I have worked on. I have about 200 or 300 that I will trim next week that ought to be about three months old when they are made capons.—C. J. MAHIN, Fowler, Ind.

Eggs the Year Around.

There is no sure course of having eggs the year round, but one thing must not be overlooked. The pullets must not all be hatched at the same time. There should be at least three families, hatched say in March, May, and late August or early September. This will lead to molting at different periods, and consequently only one flock will be idle at one time, if all be well fed and carefully attended to. No hen lays continually, and the only way by which a continual supply of eggs may be insured is to have birds varying ages. Still another rule that should be observed is that heavy fowls, like Plymouth Rocks or any of the Asiatics, lay in Winter better than the light breeds; hence the earlier broods for laying through the Winter's coldest weather should be of these breeds, or at least be sired by a male of one of these varieties. Late-hatched chicks that are not wanted for layers before next Spring will do well if partly or wholly Leghorns, as these birds are noted for being the layers of the most eggs of any breed during the mild season of the year.

A Good Coop and Run.

We often hatch splendid broods of chicks and have our hopes high for the rearing of them, only to find that a majority have been carried away by rats, cats, hawks, and other casualties too numerous to mention. When we have the chicks confined in a coop like the cut, we are free from many annoyances that would otherwise happen. By this arrangement the chicks can scratch at will and be fed and watered without interruption from the older ones, and the hen is free to care for them with more ease and comfort. When the little ones become chilled they can seek the mother, who is always in reach. The run is made of one-inch boards 10 or 12 feet long, and covered with wire netting. A small opening in one side connects with the coop, and a small door in the opposite side enables you to feed and water them. When the ground becomes dirty the coop can be moved to fresh ground, and if not overcrowded, the broods can be thus kept confined until the chickens are large enough to care for themselves. The coop should be roomy and lighted, and a door for cleaning purposes. If thus constructed the chicks will enjoy it in wet weather.

A MODEL COOP.

Cacklings.

A hen that is too fat can't lay.

A liberal use of whitewash is beneficial.

Sour milk is an excellent drink for poultry.

Dampness is to be prevented at all times.

A good, soft food in the morning will give excellent results.

Proper ventilation contributes much to the health of the fowls.

Many of our Maine farmers are going into the poultry business, especially the turkey branch of it, and the number of them raised in that State this year is quite large.

Disease should be averted. A good way to prevent disease is to be industrious in the poultry yard. A lazy man encourages disease and brings disaster on himself.

Destroy the nests of the sitting hens when the chicks are taken out, thoroughly clean and replenish with fresh straw. Sprinkle a few drops of carbolic acid in bottom.

Those desiring to enter the poultry business should do so in the Summer, as poultry is then cheap, and can be purchased at half the price that would have to be paid at other times. Begin on a small scale, but make your plans so that the houses can be enlarged when you wish. If you do not know anything about raising poultry, it is best to start on a very small scale. Learn the work thoroughly, and then gradually increase the number. One trouble with the beginner is that if he has very little capital he makes everything on a small scale, and if his business is successful, he finds that he cannot enlarge it without beginning all over again, while another who has plenty of money to start with puts it all in large buildings and soon finds that some of them must lie idle.

The Liberty Bell.

One of the prettiest exhibitions at the World's Fair is from California. The natural products of that State are grouped in a variety of styles with wonderful artistic effect. The exhibit of oranges from that place is very large, and a beautiful arrangement of the fruit is seen in the pendant liberty bell. A short while ago we gave a description of the tower of oranges in the State exhibit which shows the marvelous aptitude of the Californian for designing and execution.

The liberty bell, which is in the south end of the horticultural display, is equally as well and wonderfully constructed as the tower. The bell is supported from a framework, which is covered with orange leaves and hangs from a crosspiece upon which is inscribed in oranges the word "Liberty." The design is exactly similar to the real liberty bell, and even the crack in the original is shown in the one made of oranges.

The Farm Well.

Too often no precaution is taken to prevent the polluting of the farm wells by the drainage from the barnyard, pigpen and other equally dangerous sources. More disease and sickness is caused by the drinking of impure water than by any other one thing, and too much care cannot be taken in locating a well or protecting the ones already dug from pollution by surface or under drainage.

There are about 200 acres of hops in Josephine County, Ore., and the average net profit per acre is $250. The hop crop of Josephine County sends in circulation about $500,000 annually.

A Luxurious Racehorse.

Ormonde, the famous racehorse which arrived in New York recently, has a luxurious wardrobe. His dusters and hot-weather wraps are of the best white linen marked with a blue check. "The same blue and white pattern appears on the blankets, which range from light to heavy weights and are of the finest lamb's wool. For extra cold weather are sets of tan-colored blankets and hoods which will hide the horse from head to heels like a huge ulster. Of the same pattern for rainy weather are sets of thin white rubber coverings, as dainty as a young swell's mackintosh. Rubbing towels, dusters, white and tan-colored cloths for bandages, and square blue and white checked padded flannel knee covers, for use in walking exercise finish the wardrobe. They are the best goods that could be bought in London." A quantity of English feed was brought over with Ormonde, and he will use that until he is acclimated. The hay cost $50 a ton in London, and it is strewn with red clover tops. The oats come from Germany. Ormonde has a groom, a second groom, and a watcher. One is inclined to wonder what Ormonde's thoughts would be if he should suddenly meet with reverses and come down to pulling a milk wagon.—*Buffalo Courier.*

The Fruit of Canada.

Canada's fruit exhibit is a source of wonder to those who are not well informed on the capabilities of our sister country in this line. In the line of small fruits particularly, there is no exhibit in the building which can excel or even equal the exhibit of Canada. Here are currants, gooseberries, raspberries, cherries, and strawberries of the finest grade, both in the matter of size and flavor. The fresh fruit is just beginning to come in now, and this year's crop in all these lines appears to excel even the choice bottled exhibits of former years.

In this line the Province of Ontario has an unusually fine exhibit. The apple exhibit alone from this province would entitle it to a high rank as a fruit-growing section, even if there were no other fine specimens of fruit-growing ability on exhibition.

Look to the Silo.

The silo is too important an adjunct to successful farming and stock raising to be overlooked by progressive farmers in this country. Especially should the silo be considered at this time. The season has thus far been a peculiar one, and the balance of the season is likely to be, since the old rule of "one extreme follows another" has a record that deserves respect. It may be, as last year, that late corn could be made into splendid silage, and thus saved from the early frost. The stubble fields, too, may be promptly plowed and planted to early varieties of corn to be converted into stock feed at a trifling cost. Only a silo can make all this possible and profitable.

Churches in the South.

The Census of 1890 showed there were 18,327,704 people in Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, and Arkansas. The church statistics showed there were in those States:

Churches.	Organizations.	Church Edifices.	Membership.
Baptists	12,000	12,000	1,400,000
Episcopalians	1,331	1,302	92,952
Disciples	3,702	2,640	328,916
Christians	185	109	11,052
Evangelical Ass'n	46	40	1,949
Adventists	101	28	2,470
Methodist Church, South	10,566	8,687	839,002
Congregationalists	240	260	20,793
African M. E.	1,488	1,398	319,813
Colored M. E.	1,703	1,613	126,652
Presbyterian, North	711	654	51,851
Presbyterian, South	2,391	2,288	179,721
Presbyterian, Negro	238	192	113,439
Methodist Episcopal	4,893	4,243	823,368

The Vision of Birds.

Birds have very acute vision; perhaps the most acute of any creature, and the sense is almost more widely diffused over the retina than is the case with man; consequently a bird can see sideways as well as objects in front of it. A bird sees—showing great uneasiness in consequence—a hawk long before it is visible to man; so, too, fowls and pigeons find minute scraps of food, distinguishing them from what appear to us exactly similar pieces of earth or gravel.

Young chickens are also able to find their own food, knowing its position and how distant it is, as soon as they are hatched, whereas a child only very gradually learns either to see or to understand the distance of objects. Several birds—apparently the young of all those that nest on the ground—can see quite well directly they come out of the shell, but the young of birds that nest in trees or on rocks are born blind and have to be fed.—*Chambers' Journal.*

Aluminum Horseshoes.

The Smithsonian Institution and the Geological Survey at Washington have received information of the discovery of immense deposits of very rich aluminum ore in Alabama. This is so easily worked as to give hope that the price of aluminum will be greatly reduced. This is of some interest to farmers, as many tools can be made of aluminum to advantage, and particularly it has been discovered that aluminum horseshoes are much superior to those made of steel or iron. In making these the aluminum is first cast in bars about one-half inch square, then hammered to make perfectly hard, and formed into shoes. These, it is said, will not wear smooth, and can be reset several times, lasting much longer than the present style, and it is also claimed, at the present price, shoes made of it will be cheaper in the long run than those made of steel or iron.

A medical journal asserts that people who drink cow's milk are more prone to consumption than those who use the milk of the reindeer, the buffalo, the ass or the goat.

THE MARKETS.

Review of the Fortnight.

Clapp & Co.'s circular says: "The average receipts of wheat at the nine primary markets from July 1 to Sept. 1, since 1887, have been about 22 per cent. of the total yearly receipts, and for the first four months about 49 per cent. of the yearly receipts at primary markets. The movement from July 1 to Sept. 1, 1893, was about 35,000,000 bushels. This indicates a crop movement of about 160,000,000, against 247,000,000 delivered to primary markets for the year ending June 30, 1892, and 267,000,000 bushels for the year ending June 30, 1893. The visible is more than 25,000,000 less than Jan. 23, 1893, and is smaller than any time since Oct. 17, 1892. Exports since July 1 have been about 49,000,000 bushels, and the largest for any similar period. The world's visible decreased last week about 200,000 bushels, and is now about 153,000,000 bushels. France, the United Kingdom, and America usually grow more than one-third the world's crop. This season they will not likely thrash over 80 per cent. as much as last year. Wheat has been and is abnormally low the world over. It is conceded the large visible and unnatural financial conditions was the cause of the decline of 30 per cent. from last year or average seasons. Provisions, stocks, and cotton have had a large advance. Statistics and natural conditions appear to be in accord with the general sentiment that prices are too low; that an advance is due this month; that wheat ought to bring at least one and one-half cents per pound in London, or more than 80 cents in Chicago; that it requires but a little margin money and some nerve to make a fortune.

"In cotton a bull sentiment seems to have preceded a spinners' legitimate consumptive demand. Shorts were caught napping. Storms, worms, and drouth prevailed in the 11 cotton States. Crop reporters who predicted a coming crop of 8,000,000 bales have reduced it to an average, or about last season's yield. Estimates are out that America must furnish the world as much cotton the coming 12 months as on an average the past three years. Great Britain and the Continent have less cotton than a year ago. Their price is about 7-16d. higher. Exports to Europe from all India since Sept. 1, 1892, are 1,053,000 bales of 398 pounds, against 1,098,884 bales in 1891-'92, and 1,310,693 bales in 1890-'91. Exports to Europe and America from Egypt since Sept. 1, 1892, were 664,000 bales, against 619,356 in 1891-'92, and 543,783 in 1890-'91.

"Secretary Hester, of the New Orleans Cotton Exchange, reports last year's crop as 6,700,365 bales, or a decrease of 2,335,014 bales from the previous crop, or 1,952,352 bales from the crop of 1891-'92. Mississippi, Louisiana, Arkansas, and Tennessee had more than five per cent. of the deficiency. The average price of cotton last year was higher than the previous year. The Government December report made the average farm price 8.4, compared with 8.3 in December, 1891, and 8.6 in December, 1890, indicating $37 50 per bale for 1891 and 1892.

"Corn sentiment appears to be very bullish. Corn men predict five of the seven corn States will secure an unusual small crop; that Kansas and Iowa may have more than average crops; that the other States will have an average, and that the aggregate will not exceed last year's crop or equal average home consumption. We believe crop prospects have been unusually uneven; that there is less old corn in the country than usual.

"The long-continued drouth in the oat belt, where hay was but a fair crop and Fall feed is poor and corn was but three-quarters of a crop, may result in forcing higher prices and in stimulating speculation and an Eastern demand. Oats to be delivered in Chicago eight months hence at less than a cent a pound does not sound dear, and may yet prove to be very much below real values.

"Receipts of hogs in Chicago last month were the largest of any August since 1889. The average weight was 250 pounds, against 224 pounds in August, 1892. Chicago has only about 20 per cent. as much pork as a year ago, 12 per cent. as much lard, and about 40 per cent. as many pounds of short ribs. The world's stock of lard Sept. 1 was 138,676 tierces, against 175,038 a year ago, and 405,182 in 1891. Receipts of hogs from March 1 (when Winter packing ended) to Aug. 31, in Chicago, were 2,829,441 pounds, against 3,634,287 a year previous. Appearances indicate the stocks in Chicago Nov. 1 (when Winter packing begins will be unusually small. Exports recently have been larger than a year ago. The Southern and New England demand is larger in proportion to supplies. Jannuary products are much below old crop of futures, and seem likely to advance. Packing to date 5,215,000 hogs, against 6,265,000 hogs last season."

Wool.

BOSTON, Sept. 11.—The feature of the market this week has been the large sales of Territory and Texas wools, and the improvement in the demand reported last week has been fully sustained, with an unusual amount of sales reported. Buyers have been plenty in the market, and several large mills have made extensive purchases, evidently believing that bottom has been reached and now is the time to operate. Although there is a better demand, there is no marked improvement to report in values. The tone of the market is steadier and prices are certainly on a better basis than a month ago.

Washed fleeces of all kinds are firmly held, and are having a good demand. Stocks are not large, and holders are not forcing sales. For the best lines of Ohio XX and above 25 is asked, and holders are not willing to shade that price. A small sale of a lot a little off in quality, was made at 24 per pound. For good straight XX 23½ is readily obtained, and X lots are selling at 22½ per pound. No. 1 clothing wools are very firm and 25 is obtained for straight No. 1 Ohio, with clothing and combing together selling at 26 per pound. A small sale of No. 2 fleece was made at 25 per pound. Michigan fleeces are also very firm and have a fair sale, X lots selling at 20a20½, with some choice lots held at 21. The outside price for No. 1 Michigan fleece is 25, and No 2 and coarse are quoted at 23a24 per pound.

No sales of importance are reported in No. 1 washed combings, and the market is on a nominal basis. Values remain the same as last reported. Fine delaine selections are in small supply and prices are firm and steady as last reported. Unwashed combings are firm, but are having a great demand at prices last quoted. A fair amount of Ohio and Michigan unwashed and unmerchantable fleeces have been sold at prices ranging from 15a19 per pound.

There has been an active demand for Territory wools, and almost 2,000,000 pounds have been sold. Several large sales were made which will be reported when the wool is delivered. Prices in the grease have ranged from 8a16 as to quality. Sales on a scoured basis were made of fine Nevada wool at 40, an extreme price, as most sales of fine and fine medium were made at 35a38 per scoured pound. The scoured values are little firmer and holders claim that they have no difficulty in obtaining outside figures.

Texas wools have had a good sale at prices ranging from 12a15 for six to eight and 12 months' growth. Good, free eight months' wool is being offered, to cost, scoured, 38 per pound.

Small sales of Eastern Oregon wools were made at 12a14 per pound. These wools are not much sought after. California wools are quiet and steady, although a large amount of sample bags have been sold. The average scoured price is 36a38 per pound. Pulled wools are dull and featureless.

Foreign wools of all kinds are unchanged in tone and prices.

Ohio and Pennsylvania fleeces—No. 1 fleece, 25; X and X and above, 22a22½; XX and XX and above, 24a25.

Michigan, Wisconsin, etc.—Michigan X, 20a20½; Michigan No. 1, 23a24; New York, New Hampshire, and Vermont X, 20; New York and New Hampshire No. 1, 23.

Combing—Kentucky and Maine ⅜ blood, 20a21; Kentucky and Maine ¼ blood, 20a21; Indiana and Missouri ¼ blood, 18a20, Indiana and Missouri ⅜ blood, 18a20; No. 1 Ohio, 28a29, No. 2 Ohio, 26a27; No. 1 Michigan, 27a28; No. 2 Michigan, 25a26.

Delaine Wools—Ohio, 25; Michigan fine, 22a23.

Territory Wools—Montana fine and fine medium, 9a16; Montana No. 2 medium, 15a17; Wyoming, Utah, Dakota, and Colorado fine and fine medium, 9a16; Wyoming, Utah, Dakota, Nevada, and Colorado No. 2 medium, 15a17.

Southern Clothing Wools—Georgia, 19a20, nominal; Kentucky and Maine ⅜-blood clothing, 20; Missouri and Indiana, 18a19; Kentucky and Maine ¼-blood clothing, 20; Missouri and Indiana, 18a19.

Texas and Southern Wools—Texas Spring medium (12 months), 15a17; Texas Spring fine, 11a14; Texas Spring fine (six to eight months), 10a14; Texas Spring medium (six to eight months), 12a14; Texas Fall, nominal.

Kansas and Nebraska Wools—Fine, 9a12; medium, 14a16; carpet, 8a12.

Unwashed and Unmerchantable Wools—Ohio and Michigan fine unwashed, 14a17; Ohio and Pennsylvania unmerchantable, 17a19; Michigan unmerchantable, 17a18; fat sheep, fine, 14a16; do, medium, 20a22.

Pulled Wools, Scoured Basis—A supers, 35a40; B supers, 30a33; C supers, 22a25; low and No. 1, 15a20; extras and fine A supers, 42a47; fine, combing, 35a38.

California Wools—Spring Northern, 14a16; Middle County Spring, 12a14; Southern defective, 9a11; free Northern Fall, 12a14; Southern, do, 9a10; defective, 8a9.

Oregon Wools—Eastern, fair, 10a13; choice, 14a16; valley, nominal, 17a19.

Australian Wools, Scoured Basis—Combing supers, 62a65; do good, 60a62; do average, 58a60; clothing, 58a60; crossbred, fine, nominal, 56; do medium, 52; Queensland combing and clothing, 58a60; lambs' wool, 60a70.

Montevideo wools, nominal, 27a28 fair to choice.

Cape wools, 25a28, as to quality, nominal.

Carpet Wools—Aleppo, 13a14; Angora 14a14½; Assyrian, 12½a13; Cordovn, 15a16; Valparaiso nominal, 16; Donskoi Autumns, 19a20; combings, 24a26; cardings, nominal, 20a22; greasy 13a14; Bokhara, 13a13½; Khorassan fleece 22a23; East India, nominal; Bagdad, white, 25a26; for choice, and 23a24 for ordinary; do, fawn, 22a23; do, colored, 20a21 for choice, and 19a20 for ordinary; China carpet, 14a15; do, ball, 18; Karadi, 18a20; Mossoul, 20a22; Scotch, 17a18; camel's hair, 12½a13½.

Cotton.

NEW YORK, Sept. 13, 1893.—There was a weak tone to the contract market at the opening of 'Change, and prices were 5 to 6 points lower, followed by a recovery of 11 to 12 points, then lost 3 to 4 points. The Government weekly weather bulletin, published to-day, was unfavorable, reporting a good deal of damage done by heavy rains. On the spot the market was quiet at an advance of ⅛. Middling upland quoted at 8¼, and do Gulf at 8½. Liverpool this morning reported the market for spot cotton easier at 1-16d. decline in quotations.

	High.	Low.	Closing prices.
September	....	....	7.98a8 00
October	8.09	8.00	8.09a ..
November	8.26	8.14	8.25a8.26
December	8.39	8.24	8.37a8.38
January	8.50	8.36	8.48a8.49
February	8.57	8.55	8.57a8.59
March	8.67	8.55	8.66a8.68
April	8.77	8.63	8.76a8.77
May	8.86	8.80	8.84a8.86

Chicago Markets.

CHICAGO, Sept. 13.—The wheat market to-day showed a good trade, while a very unsettled feeling prevailed. The opening was weaker and prices were about ¼ lower, but quickly rallied, prices advancing ½a¾, then declined ½a¾, rallied again, with some fluctuations, prices advancing this time 1½, then declined 1, advanced ¼, and again declined 1, and the closing was about ¼a1½ lower than yesterday. There was more or less realizing by parties who had bought at lower prices.

The reports of rain throughout the drouth-stricken country had some effect, as it will enable farmers to do their Fall plowing. Cables were higher early, but later reported a decline. Bradstreets' reported the stock of wheat east and west of the Rocky Mountains as decreasing 30 000 bushels. Dornbusch is said to have reported the wheat crop of the world at 1,890,000,000 bushels and the requirements at 1,912,000,000. The crop of 1892 was reported at 2,018,000,000.

Corn was nervous and unsettled, at times showing a large trade. The market was subject to frequent changes, and fluctuations were sharp within the established range of 1¼a1¾. No significant trading was noted, the large traders appeared to be resting on their positions, although some of the larger longs were credited with letting go a portion of their holdings. The principal short, whom the trade have been looking to cover, disappointed them by margining his deals and standing out, doing but little new business. There were good rains reported in Indiana, Illinois, Ohio, and Michigan, which caused the market to open off ¼a¾, and after selling up ⅜ worked back another ⅜, again advanced ¼, declined ¼, rallied ¼, weakened ¼, and closed ¼a1¼ lower.

Oats—There was a fair trade and an unsettled feeling, but prices moved within a small range. The opening was weak at ¼a½ decline, rallied ¼a½, declined ¼a½, and closed with a further loss at a recession of ¼a½ from yesterday. There was no disposition to sell, and this, combined with the weakness in other grains, caused the decline.

Provisions—Notwithstanding the fact that live hogs were higher at the yards, the speculative market for provisions opened weak and lower on the temporary easiness in wheat and corn, heavy receipts of hogs at Omaha and Kansas City, and an absence of outside orders, with a little selling by yesterday's buyers. Afterward a better feeling was noticeable, prices advancing moderately in some instances, but trade was light. The late decline in grains was reflected in provisions, the market ruling easy and closing lower all around. October pork closed 30 lower than yesterday, October lard 22½ lower, and October ribs 15 lower.

The leading futures ranged as follows;

Articles.	Opening.	Highest.	Lowest.	Closing.
Wheat, No. 2—				
Sept.	68¾	69¼	68½	68¾
Oct.	69¼	70¼	68¾	68¾
Dec.	72¾	73¾	72¼	72¼
May	80¼	80¾	79¼	79¼
Corn, No. 2—				
Sept.	42¼	42¾	41¾	42
Oct.	42¼	42¾	42	42¼
Dec.	42¼	43¾	42	42¼
May	46	46¼	45½	45¾
Oats, No. 2—				
Sept.	27	27¼	26¾	26¾
Oct.	26¾	27¼	26½	26½
May	32	32¼	31½	31¾
Mess pork, per barrel—				
Oct.	$14.75	$14.75	$14.60	$14.60
Jan.	13.75	13.90	13.75	13.80
Lard, per 100 pounds—				
Sept.	8.60	8.60	8.50	8.50
Oct.	8.40	8.40	8.32½	8.32½
Jan.	7.80	7.80	7.72½	7.75
Short ribs, per 100 pounds—				
Sept.	10.00	....	.....	10.00
Oct.	8.50	8.62½	8,40	8.45
Jan.	7.27½	7.32½	7.25	7.25

Cash quotations were as follows: No. 2 Spring wheat, 68½; No. 3 Spring wheat, 59a61; No. 2 red, 68½; No. 2 corn, 42; No. 2 oats, 27½a28½; mess pork, per barrel, 16.25a16.30; lard, per 100 pounds 8.50a8.60; short ribs, sides (loose), 10.30a10.35; dry-salted shoulders (boxed), 7.25a7.50; short clear sides (boxed), 9.75a10.

Live Stock.

NEW YORK, Sept. 13.

Beeves—The market opened rather brisk, with good to choice natives selling at an advance of 10c per 100 pounds, but the demand soon weakened, and the close was dull for all grades, with the early advance lost. The yards were about cleared. Poor to strictly prime native steers sold at 3.70a5.00 per 100 pounds, a selected bunch for exportation to Bermuda at 5.25, Texas and Colorados at 3.10a3.70, oxen and stags at 3.10a4.00, bulls and dry cows at 1.80a2.75.

Milch Cows—Market very dull, with reported sales at 20a45 each for poor to choice cows, calf included.

Calves—The demand was strong, and all sorts made an advance of ¼c per pound. The close was firm. Poor to prime veals sold at 4.50a7.50 per 100 pounds, a few selected at 7.75, grassers at 1.50a2.75, a carload of Western calves at 3 00.

Sheep and Lambs—Good to choice sheep were slow but steady, with the under grades selling lower. Lambs ruled very weak at a further decline of ¼c per pound, and only a dozen carloads remained unsold. Poor to prime sheep sold at 2.50a4 00 per 100 pounds, a selected bunch at 4.50; common to very choice lambs at 3.50a5.62½.

Hogs — Market higher at 6.30a7.00 per 100 pounds.

Union Stock Yards, Chicago, Sept. 13—Common to extra steers, 2.80a5.50; stockers and feeders, 1.85a3.25; cows and bulls, 1.10a3.25; calves, 2.25a5.50. Hogs strong. Heavy hogs, 5.50a6.25; common to choice, mixed, 5.65a6.30; choice assorted, 6.35a6.40; light, 5.85a6.35. Sheep strong. Poor to choice sheep, 1.00a4.00; Western, about 3.30; lambs, 4.25a5.25.

Produce.

NEW YORK, Tuesday, Sept. 12, 1893.

Butter—With a good demand and encouraging reports from the West the market for butter is quite strong. There is a good demand for State dairy, and a few fancy lots sold for above quotations. There is little choice Western dairy. Factory is in good demand.

State dairy, half-firkin tubs, fancy, per pound	24½a25
State dairy, half-firkin tubs, choice, per pound	.. a24
Eastern creamery, new, fancy, per pound	26½a27
Eastern creamery, fair to good, per pound	23 a25
Western creamery, new, fancy, per pound	26½a27
Western creamery, fair to good, per pound	23 a25
Western dairy, fair to good, per pound	15 a16½
Imitation creamery, choice, per pound	20 a21
Imitation creamery, fair to good, per pound	17 a19

Beans and Peas—There is not much demand for either beans or peas, and, as the new crop is soon expected, prices have been reduced to clean up the market.

Beans, marrow, choice	$2 60 a$2 62½
Beans, red kidney, choice	2 50 a 2 60
Beans, white kidney, choice	1 80 a 1 90
Beans, Lima, California, per 60 pounds	1 65 a 1 70
Green peas, new, barrels, per bushel	1 40 a 1 45

Cheese—The market for cheese was firm today, and a few lots of fancy colored went at 9½.

State factory, colored, large fancy, per pound	9¼a..
State factory, full cream, large, good to choice, per pound	9 a9½
State factory, white, small, fancy, per pound	9¼a..
State factory, part skims, prime, per pound	5 a5½
State factory, full skims, per pound	1 a1½

Dried Fruits and Nuts—Although there is not much demand for evaporated apples, prices are firmly maintained.

Apples, evaporated, choice per pound	8 a 8½
Apples, evaporated, ordinary to good, per pound	6½a 7½
Apples, sun-dried, per pound	3 a 4½
Peaches, North Carolina, sun-dried, per pound	8 a 8½
Peaches, California, unpeeled, per pound	6 a 8
Huckleberries, new, per pound	9 a10
Peanuts, fair, per pound	3½a 4

Eggs—Cool weather, moderate receipts, and a good demand combined to give a stronger tone to the market for eggs.

State and Pennsylvania, fancy, per dozen	19 a	..
Eastern, choice, per dozen	18½a	18½
Western, choice, per dozen	18½a	18½
Western, good to prime, per dozen	18 a	18½
Western, fair to good, per dozen	17½a	18
Western seconds, per case	$3 25 a	$3 75

Fresh Fruits—Choice hand-picked apples are in very good demand, and are quite firm, but common kinds are neglected. There is a good demand for choice Bartlett pears. Seckel pears are pretty firm. There is a good supply of grapes and prices are easy. Peaches are not very plentiful and prices are steady. Choice mushmelons are quite steady. Watermelons are not plentiful and prices are steady,

Apples, Gravenstein, hand picked, choice, per double-head barrel	$2 50 a	$3 75
Apples, Nyack pippin, choice, per round-hoop barrel	2 25 a	2 50
Apples, Holland, pippin, choice, per small barrel	1 50 a	1 75
Apples, open heads, hand-picked	1 00 a	1 50
Apples, windfalls and inferior, per barrel	50 a	75
Cranberries, Cape Cod, dark, choice, per barrel	25 a	1 75
Peaches, Delaware and Maryland, fancy, per basket	.... a	6 00
Peaches, Delaware and Maryland, medium, per basket	.... a	75
Peaches, New Jersey, fancy, per basket	40 a	50
Pears, up-river, Bartlett, per barrel	.. a	1 00
Pears, New Jersey, Bartlett, per barrel	1 50 a	4 00
Pears, Seckel, per barrel	3 00 a	4 00
Pears, hard sorts, selected, per barrel	2 50 a	3 00
Pears, common, per barrel	1 25 a	2 00
Grapes, up-river, champion, per pound	75 a	1 25
Grapes, up-river, champion, per 10-pound basket	1 a	1½
Grapes, up-river, Concord, per pound	10 a	12
Grapes, up-river, Niagara, per pound	2½a	3
Grapes, up-river, Warden, per pound	4 a	6
Muskmelons, Monmouth County, Christina, per barrel	3 a	4
Watermelons, large, prime, per 100	1 00a	1 50
Watermelons, medium, per 100	14 00a	15 00
Watermelons, small, per 100	8 00a	12 00
	4 00a	7 00

Furs and Skins—We quote:

	North and Northeast.	South and Southwest.
Black bear	$20 00a$35 00	$10 00a$25 00
Cubs and yearlings	8 00a 18 00	5 00a 10 00
Beaver, large	7 00a 9 00	6 50a 7 50
Beaver, medium	5 50a 6 50	4 00a 5 50
Otter	9 00a 12 00	6 00a 9 00
Marten, dark	2 00a 5 00	....a ...
Marten, pale and brown	90a 1 25	....a ....
Mink	1 00a 3 25	75a 1 25
Red fox	1 50a 1 75	1 20a 1 50
Gray fox	80a 1 20	70a 85
Skunk, black	1 30a 1 40	1 10a 1 20
Skunk, half striped	80a 90	65a 80
Skunk, striped	40a 45	35a 40
Raccoon	75a 1 00	50a 75
Opossum, cased large	40a 45	30a 35
Opossum, medium and large, open	20a 25	15a 18
Wildcat	60a 1 25	40a 60
Muskrat, Spring	20a 22	18a 20
Muskrat, Fall	9a 11	8a 10
Muskrat, Winter	15a 17	12a 15

Hay and Straw—There is very little activity in hay. Hay, clover, is dull. There is a good demand for raw straw, and prices are firm. Oat straw is irregular in quality and price.

Hay, No. 1, per 100 pounds	85a90
Hay, No. 2, per 100 pounds	75a80
Hay, No. 3, per 100 pounds	65a70
Hay, clover, per 100 pounds	60a65
Hay, shipping, per 100 pounds	..a65
Hay, salt, per 100 pounds	..a50
Long rye straw, per 100 pounds	60a65
Short rye straw, per 100 pounds	..a50
Oat straw, per 100 pounds	45a55
Wheat straw, per 100 pounds	..a50

Vegetables—Long Island and New Jersey potatoes are in good demand. State potatoes are steady. Sweet potatoes are easy. Onions are steady. Prime cabbage is firmer. Eggplant is steady, and Lima beans are firmer. Cucumbers are quiet, but cucumber pickles are quite steady. We quote:

Potatoes, New Jersey, in bulk, per barrel	$1 50a$2 00
Potatoes, Northern New York, prime, per 180 pounds	1 75a ....
Sweet potatoes, per barrel	2 50a 2 75
Sweet potatoes, South New Jersey, per double-head barrel	3 00a 3 25
Onions, Connecticut, white, per barrel	2 75a 3 00
Onions, Connecticut, red, per barrel	1 75a 2 00
Onions, Connecticut, yellow, per barrel	2 00a 2 25
Eggplant, New Jersey, per barrel	75 a 1 25
Cauliflower, per barrel	1 50 a 3 50
Celery, State and Western, per dozen roots	15 a 25
Cabbage, Long Island and New Jersey, flat Dutch, per 100	5 00 a 8 00
Cabbage, poor to fair, per 100	3 00 a 4 00
Cucumbers, pickles, per 1,000	.... a 1 75
Turnips, Russia, New Jersey	1 25 a 5 10

SUNDRIES.

Beeswax, Western, pure, per pound	.... a	....
Beeswax, Southern, pure, per pound	25 a	25½
Honey, white clover, one-pound boxes, per pound	13 a	14
Honey, white clover, two-pound boxes, per pound	12 a	13
Honey, buckwheat, one-pound boxes, per pound	10 a	..
Honey, buckwheat, two-pound boxes, per pound	9 a	10
Maple sugar, new, per pound	6 a	..
Maple sirup, per gallon can	50 a	65

Owls move in a buoyant manner, as if lighter than the air. Ravens when on the wing spend much time striking each other, and often turn on their backs with a loud croak and seem to be falling to the ground. In fact, they are scratching themselves with one foot and have lost their center of gravity. Crows and daws swagger in their walk. Woodpeckers fly opening and closing their wings, and so are always rising or falling in curves. When they run up trees they use their tails, which incline downward, as a sort of support. Most of the small birds fly by jerks, rising and falling as they advance, and most of them hop; but wagtails and larks walk. Skylarks rise and fall perpendicularly as they sing. Woodlarks hang poised in the air, and titlarks rise and fall in large curves, singing as they come down.

We propose to give away 100,000 watches as fast as our friends want them.

THE FENCE CORNER.

She Read the Papers.

Housekeeper—Twist the necks of those chickens until they are dead.

New Girl—Please, mum, I'd rather chop their heads off, and have it over quick.

Housekeeper—Horrors, no! Suppose someone should be murdered and the detectives should find our hatchet with blood on it. We'd all be hung. I guess you haven't been very long in this free country.—*New York Weekly.*

Pretty Tough.

Customer—If you ever send me another piece of meat like the last one I'll take away my custom.

Butcher—What was the matter with it?

Customer—Why, it was so tough that when it was cooked I couldn't even get my fork into the gravy.—*Harper's Bazar.*

Only a Pup.

He—I wish I were a dog, Miss Nellie. She—O, you will grow; don't worry!

Doing Work Together.

"Johnny," said the teacher, "if your father can do a piece of work in seven days, and your Uncle George can do it in nine days, how long would it take both of them to do it?"

"They'd never get it done," said Johnny. "They'd sit down and tell fish stories."—*Youth's Companion.*

The Power Behind the Throne.

"Ho! You say your prayers every night and morning, do you?" jeered the bad little boy.

"Yes, and so would you if you had to do it or take a lickin'," replied the good little boy, firmly.—*Chicago Tribune.*

Capable to Take It.

"Yes, Sir; this young man can take your business right in hand and"——

Merchant—Well, that's enough. The last young man of that kind I had took my business in hand and went over to Canada.—*Chicago Inter Ocean.*

A Matter of Taste.

Farmer Beachnut—I declare, if them city chaps don't wear the durndest lookin' close I ever seed!—*Truth.*

Scared.

Weary Watkins—I don't want no more sleep for a year.

Wandering Willum—Wot's eatin' you?

Weary Watkins—I slep' last night and dreamed I was workin'.—*Chicago Record.*

The Question Answered.

He—How long should a man know a girl before proposing?

She—That depends on his income.—*Raymond's Monthly.*

Why He Objected.

"What makes old Gumbleton get so wrathy when his wife calls him 'Birdie?'"

"She didn't adopt the name for him till his neighbors tarred and feathered him two years ago for not supporting her."—*Indianapolis Journal.*

Good Fishing.

Summer Boarder—Are there any fish in that pond?

Host's Little Boy—Yessiree—two of 'em. Pop put 'em in jus' before you came.—*Street & Smith's Good News.*

A Reasonable Excuse.

Weary Raggs—What you doing wid an umbrella, yer dude?

Bleary Waggs—Dude be derned! I was afraid I'd get washed wid de rain.

"The Autumn tints, in red and gold,"
He said, "are coming soon, I ween."
"'Tis true," said she, "and pity 'tis
That you still stay a perfect green."
—*Detroit Free Press.*

"It's a fact that I'm more or less crooked," mused the corkscrew, "but I've always got my pull."—*Philadelphia Record.*

Special Correspondence THE AMERICAN FARMER.

THE LIVE STOCK SHOW.

List of Awards to the Exhibitors of Cattle.

WORLD'S FAIR GROUNDS,
Sept. 12, 1893.

Never in the history of man has there been such an assemblage of four-footed beasts as is now on exhibition at Jackson Park. There are over 1,700 head of sheep and fully 1,200 of hogs, horses, and cattle each. Every breed of cattle is well-represented, but the Jerseys are there in greatest numbers. Maj. Alvord needed much time to place the prizes, and the cattle were led out three days in succession. It was a great week for Jersey breeders. They were there by the hundreds from all parts of the United States, and all must have felt repaid as they saw the long procession enter the show yard.

The judge used as his standard of excellence that adopted by the American Jersey Cattle Club. The animals were placed in their different divisions so as to in no way impair the separate State contests for prizes.

The following list shows the prize, first and second, winners.

Aged bulls—14 entries.

Pedro 3187..... { Domino of Darlington 243 / Eurotas 2434.
Owned by T. S. Cooper, Cooperburg, Pa.

Mahkeenac 24 23703. { Mahkeenac 3290. / Ocea 19403.
Owned by A. H. Cooley, Little Britain, N. Y.

Bulls two years old and under three—6 entries.

Turbigo's Best Son 26853. { Turbigo 18208. / Zoroanda 49119.
Owned by Latimer & Miller, Abingdon, Ill.

Pedro's Royal Pogis 28539. { Pedro 3187. / Marjorum of Linden 43600.
Owned by T. S. Cooper.

Bulls one year and under two—10 entries.

Trust 29353.... { Herotas 26500. / Composite 58774.
Owned by A. P. Foster, Plainview, Minn.

Pedro's Silver Rioter 31320. { Prospect's Rioter 9189. / Pedro's Pansy 33835.

Bulls under one year—12 entries.

Hilarious Jim 33877. { Queen's Dandy 28230. / Bonnie Nan 35412.
Owned by Latimer & Miller.

Frolicson 33496. { Mahkeenac 24 23703. / Frolic's Gem 38693.
Owned by A. H. Cooley.

Cows four years old or over—30 entries.

Ida Marigold 32615. { Ida's Rioter St. L. 13656. / Arawant Marigold 9980.
Owned by C. A. Sweet, Buffalo, N. Y.

Justa Pogis 64863. { Jupiter Pogis 18192. / Jenny Justa 43731.
Owned by Kentucky Agricultural Experiment Station.

Cows three years and under—14 entries.

Princess Honoria 62548 { Garfield Stoke Pogis 15963. / Princess Honor 31805.
Owned by estate Frederick Billings, Woodstock, Vt.

My Mary Ann 77059. { Minetto Pogis 15525. / Mary of Chestnutwood 56311.
Owned by A. H. Cooley.

Cows two years old and under three—17 entries.

Pedro's Royal Princess 88485. { Pedro 3187. / Princess Lorne 68699.
Owned by T. S. Cooper.

My Mary Ann's Sister 82690. { Minette Pogis 15525. / Mary of Chestnutwood 56311.
Owned by T. S. Cooper.

Heifers one year old and under two—22 entries.

Pedro's Pretty Girl 88488. { Prospect's Rioter 9189. / Pedro's Lady 36715.
Owned by T. S. Cooper.

Widow McCree 75394. { Trump 22048. / Wakena 62950.
Owned by A. P. Foster.

Heifers under one year—19 entries.

Queen's Zora 89113. { Turbigo's Best Son 26653. / Bonanza Queen.
Owned by Latimer & Miller.

Adelina Signal 88575. { Impossible to ascertain breeding.
Owned by Mortimer Levering, Lafayette, Ind.

There was a parade of the test cows at Jackson Park. First came the 15 Jerseys, headed by Pedro. He walked along in the most dignified manner, apparently fully realizing that he headed a "dress" procession.

Directly behind him came Brown Bessie, with Mr. Fuller at her head; then followed the 14 other Jerseys.

Then came the Guernsey cows, 15 in number, led by a very fine bull. Then at the last came the big Shorthorns. Mr. Hinds kept near them on horseback, and called out to the spectators that "these are the cows that are in the test." He looked well pleased with the world.

No. 13 of the Guernsey test herd is the third to be numbered among the dead. She was taken with acute indigestion and died in a few hours. She was a quiet cow and easily handled. Her loss is a serious one.

Kindness to the Cow.

That cow will generally do her best that is loved and petted the most by those who have her in charge. If you wish a cow to do her best, you must cultivate her acquaintance intimately and be unsparing in little acts of kindness. You may whip and torture a cow into submission, but she will strike the balance against you in the milk pail. One of the greatest faults among dairy farmers to-day is want of kindness and consideration to domestic animals. Cows should be petted daily and be made to feel that man is a friend and protector. All pain, fright, and uneasiness checks the secretion of milk, and the man who is passionate and abusive to his herd never did and never can realize a full yield from it. Anyone that has charge of animals should study their character and disposition. It is an interesting study, and, under the law of kindness, you will not unfrequently bring out wonderful traits and exhibitions of affection, which will show a forethought and design which may well be ranked with the higher intelligence of reasonable beings.—*Farm, Orchard, and Garden.*

A Very Good Law.

No person shall manufacture, or shall knowingly buy, sell, offer, expose, or have in his possession for sale any cheese manufactured from or by the use of skimmed milk to which there has been added any fat which is foreign to such milk.

Every person who, by himself or by any other person to his knowledge, violates the provisions of this section shall, for each offense, upon conviction thereof before any justice or justices of the peace, be liable to a fine not exceeding $500 and not less than $25, together with the costs of prosecution, and in default of payment of such fine and costs shall be liable to imprisonment, with or without hard labor, for a term not exceeding six months, unless such fine and the costs of enforcing it are sooner paid. (Canadian Dairy Products Act, October, 1893.)

See our remarkable offer on another page.

SEVEN TONS A DAY.

Something About the Largest Creamery in America.

The following extract is given to the readers of THE AMERICAN FARMER, as it states briefly and accurately the methods employed by one of the leading creameries in the world. The points herein dwelt upon may be just as well brought out in a home dairy as elsewhere.

"The simple rules for cleanliness so rigidly observed by our grandmothers, who made butter in the good old times from two to 10 cows, are still enforced, with one or two additions, making the code still more cast-iron in character than it was formerly. The creameries make a daily output of 200 pounds and upward, according to capacity, season, and the number of cows from which they make butter. The largest creamery on this continent, if not of the world, is Franklin County Creamery, situated at St. Albans, Vt. Its daily output averages seven tons of butter, the range running from 13,000 pounds to 17,000 pounds per day. The edifice is two stories high, with a basement. Its capacity is 25,000 pounds, and in the light of the season 20,000 pounds per day is made. One hundred and seventy-five hands are employed in this building and its branches, which are separator stations, located from one to nine miles apart, for the accommodation of patrons. Some of this cream is brought in by cream-gathering wagons, and other lots by the railroad which passes the creamery. From beginning to end is the process an interesting one.

"On its arrival at the creamery the sweet cream, rarely more than 12 to 15 hours old, is received from car or wagon and instantly weighed, when the patron is credited with the amount brought in, for which he receives a check once per month. The cans are at once emptied into a large vat, which is connected by a pump and pipes leading to the ripening and churning room above. Here huge tin-lined vats, four feet wide and 12 feet to 15 feet long, are filled one at a time and kept at just the right temperature until ripe enough for the churn. This means that fermentation has set in owing to the influence of bacteria developing in the sweet cream lactic acid. But while this ripening process is in operation the creamery and its white-aproned and white-capped employes are not idle; they are busy churning, washing, salting, and packing the ripened product of the previous day's cream. No "starter," as it is called, or sour ferment is used to hasten the ripening. The useful microbes which soured the cream of our ancestors are considered adequate and sufficiently speedy. The huge vats are merely stirred every few hours to insure an even transformation from sweet to sour.

"When one of them is ready its contents are pumped into the 14 churns, which hold from 350 to 500 gallons each. They are merely hollow cubes, nicely centered and made to revolve by steam power. They contain no dasher and nothing to get out of order and make trouble in cleaning. Having secured a proper temperature the churn lids are securely fastened down and the power applied. Accuracy is observed in every essential requisite for the production of good butter, and as a consequence there is rarely any trouble in the churning, so exactly has science reduced the art to mathematical conditions.

"Uniform results in churning insure uniformity of product. The keen ears of the churn managers detect the first indications of the separation of fat globules. And their experience tells them how far the butter has advanced from the cream stage to minute particles of butter, not discernible to the naked eye, and thence into gradually increasing globules until they are one-eighth to one-fourth of an inch in diameter, increasing in size while they become less in number, because massing themselves together. If the churns were permitted to continue their revolutions the result would be a rapid growth in the size of the little balls of butter until finally they had become massed into one huge lump tumbling in a bath of buttermilk. But this is not allowed. The churns are stopped at the most important moment in the manufacture of butter, or while these butter spheres are but one-half the size of peas. The buttermilk is then carefully drawn out and a quantity of cold water poured in and the churns revolved a few times to wash the butter. This water is then drawn out and the washing process repeated until it no longer discolors the clearest water. At once the golden mass is taken out on trays holding 25 to 50 pounds each and wheeled on trucks to the next room, where the salting, working, and packing are done.

"The butter worker is an immense, hollow wooden wheel, with a disk removed from the side nearest the operator, and shows a dozen shelves inside, which radiates from the center. Into this is put a small cartload of butter, carefully weighed, and averaging 500 to 1,000 pounds. Before the worker is set in motion salt at the rate of one ounce to the pound of butter is added. This worker is a new dairy implement, which has only just been invented, and was first constructed and put to work in this creamery. The door is not closed, and as the hollow wheel revolves the shelves are seen to carry the butter from the bottom to the top, whence the mass falls again to the bottom, being caught in every kind of contortion and frequently cut in two by the shelves or division boards. The worker, although a new machine, does its work well without breaking the grain of the butter. It brings out the buttermilk and works in the salt completely and uniformly. From the worker the butter goes direct to the tubs and boxes, which hold from 50 pounds to less than five pounds each. These are carefully tagged and sent away. Notwithstanding the great quantities of butter produced daily, the market demand is steadily larger for it than the supply, orders in advance of the output frequently running to several thousand pounds beyond the output. In such a creamery an unlimited supply of pure cold water and air is necessary. The first is obtained from one of the finest springs in the country. Cold air and cooling for the milk and water are provided by an ice machine in the cellar, which, although it is not permitted to make ice, produces brine below the freezing point, or from 10 degrees to zero. With such perfect control of water and air, it is not surprising that the workings of the churns should be brought to a scientific certainty. Every churn, can, and other utensil is sterilized and washed by steam and hot water. But all the neatness, accuracy, and dispatch of this institution, which daily turns out as much butter as an entire community of the olden times, is not run by chance, nor without considerable headwork."—*Hollister Sage.*

Grading Up a Dairy Herd.

For the benefit of others who would like a better grade of dairy cows, and who cannot buy them outright, I would like to give my experience in grading up. I had, to begin with, a herd of native cows. Perhaps they were rather better than the average, as I tried to keep only good ones if they were scrubs.

I began by buying a share in a thoroughbred Guernsey bull. Where two or three neighbors unite in purchasing such an animal it reduces the cost and answers every purpose of sole proprietorship.

All my cows were bred to this bull with very satisfactory results. I dispose of the bull calves, keeping only the heifers, and they are invariably good ones. The color is nearly always the same—orange and white—giving a uniform appearance, which is considered desirable in a herd.

I have had some of these heifers now in milk for two years. They are good milkers without an exception, showing a good per cent. of butter fat, and they have the finest udders I ever saw on heifers of the same age. As a result of this breeding I shall have in a few years a herd of cows which, although not thoroughbred, are just as good and even better for butter making than cows which would cost very much more, and all at no expense, save in the purchase of the bull.

I would like to say a few words in regard to heifers' calves. The idea is quite common that a heifers' first calf will not amount to much. My experience proves this to be a mistake. Some of my best cows were such calves, and I have never known an instance where a well-bred heifer, one that made a good cow, failed to produce a first calf that was not fully as good as any she afterward had. If it is not quite so large at birth, by judicious feeding and good care it will attain as good size as any calf.

Contrast of Cheese.

I want Americans, particularly Jersey breeders, to make "foreign cheese" instead of the ghastly stuff we know as American. I find that Roquefort, a French product, wholesales at 40 cents a pound; Gargonzola, an equally good Italian cheese, that so closely resembles the French article that only experts could tell them apart, wholesales for 38 cents. Imported Swiss wholesales for 28 cents, while the domestic Swiss, a not very good imitation, sells for 20 cents. Domestic or imitation Brie sells for 18 cents, while the imported article fetches 75 cents. This great difference in price, I am told, is owing to the extraordinary risk in making importations.

This Brie is such an immature article that it often spoils in transit, which the importers attribute to the motion of the ship and the presence of salt or "bilge" water. The probability is that the trouble comes from overheating. (If there is a hotter place on earth than the inside of a steamship, I don't know where to find it.) When they bring Brie over in refrigerators, I think the problem will be solved. The domestic Bries are made in one-pound cakes, the imported is six pounds to the cake, an unnecessary risk. It takes a man a little time to learn to eat these imported cheeses, but when he does he never lets go. With the American article, starvation is the chief incentive to learning and to holding on.—*Jersey Bulletin.*

The Test.

The Babcock test has been the means of starting minds to work along several new lines in the dairy work. It has taught us that it does not pay to churn at the temperature of a Summer's day. We lose too much butter in the buttermilk when churning is started at too high a temperature. Churn cold—away down at the bottom of the 50's; you will get better butter and more of it.

On French farms from 13 to 15 acres is the smallest territory on which a man can live without some other work. Those who have less eke out their income with job work. So soon as a laborer saves some money he buys land at about $200 per acre.

THE ORCHARD.

Cullings.

When planting trees dig the holes large enough to allow the roots to spread out in their natural position.

Before setting an orchard, it would be well to find what varieties succeed best in your locality or in locations having similar conditions to yours.

Look for a market for your small fruit near home. Long shipments seldom pay the smaller growers, as the commission on small shipments are high and it is only the larger growers who can make any profit by shipping long distances.

In planting vines, trees, or shrubs the roots should be placed in as near their natural position as possible. Much of the loss which is attributed to the lack of care on the part of the nurseryman is really caused by the failure of the fruit grower to observe this rule.

The early dropping of apples, which is thought to be due to the wet weather at the time of blooming, can be prevented by spraying with the Bordeaux mixture. The trees sprayed with this mixture at the Ohio Station the past season gave a very fair crop, while those which were not sprayed were a total failure.

Fruit Prospects.

The apple crop all over the country will be light. Even during the earlier part of the season the crop was shown to be poor, and the long drouth of the later part of July and the first part of August have still more injured the crop. In the case of Ohio the apple crop this year may be said to be an entire failure, as the percentage of that State, according to the report of the Statistician of the Department of Agriculture for August, is down to 13. Other States which appeared to have a fair crop at first have declined several per cent.

A few weeks ago it was thought that the peach crop would be the largest for many years, even exceeding the famous crop of 1891; but later reports say, though the crop is still quite large, it will not give so large returns as at first expected. The lack of rain during the last few weeks has caused much of the early crop of peaches to ripen before they attained their full size. This is particularly true of the large fruit orchards of Maryland, where the peaches showed every sign of a large crop earlier in the season. Many of the other States show a loss, but not so much as Maryland.

Although many of the fruit crops this year are reported to be very poor, the grape seems to be an exception. The lack of rain, which has caused the early peaches to ripen prematurely, has been of great benefit to the grape, as it has kept in check the mildew and rot that would otherwise have destroyed a large part of that crop. Those who have practiced bagging report their grapes in good condition and every prospect of a large crop. Altogether it seems that what will be lost in apples and peaches will more than be made up by the abundance of grapes.

The Blood-Spotted "Mike" Apples.

The so-called "Mike" apples of eastern Connecticut have a queer history, so it is related. Micah Rood was a once thrifty farmer in old Norwich town. His habits suddenly changed, and he became idle, restless and intemperate. He neglected his work and shunned his neighbors. Some thought the change due to witchcraft, others to insanity. When the apple trees blossomed in the Spring, on one tree the flowers had turned from white to red. The neighbors wondered much, and especially as Rood was drawn to this tree by a resistless fascination. When the yellow apples ripened in the Fall, each one was found to contain a red globule which was known afterward as the "drop of blood." The people remembered that a foreign peddler had passed through the village in the previous Fall and had stopped over night at Rood's house, and the story grew that he had killed him for his money and buried the body under this tree. Search revealed nothing concerning the peddler, but the people said the evidence of Rood's guilt was summed up in his disturbed spirit and the blood mottled apples. Micah Rood lost all interest in his farm, became a dependent on the town, and died in 1717. But so long as the blood-spotted apples grow they will be known as the "Mike" apples and will perpetuate the story of his life.

A Diversity of Opinion.

There is a diversity of opinion as to whether it is best to raise hoed crops in the young orchards or not. Some recommend the planting of such crops as close to the trees as can be done without injury to the roots, while others claim that the orchard should be sown in grass, still others think mulching around the trees is best. Each of these methods have advocates among the most successful fruit-raisers in this country who claim some special merit for their method, but probably the best way is for every fruit-raiser to experiment and find which is the best suited to his locality and soil.

Give the boys a show on the farm. Let them have a real money interest in some branch that they have a fancy for. Consult his notions about what he would like to have a share in. It may be that he has not shown much sense on any one branch of farming. Why should he? It has been do this and do that, and hurry, hurry was the word from the time he is out of bed until he goes to sleep again. This "all work and no play" will spoil any boy. Every boy has a latent manhood to be brought out, and must be if he ever amounts to anything. Encourage a boy to be somebody, to be a man; he will appreciate it.

THE GARDEN.

Pluckings.

Sweet potatoes should be dug when the ground is dry, if possible.

Sweet potatoes keep better if they are dug before the vines are killed by frost.

Weeds that are nearly matured should be thrown in heaps and burned so as to destroy the seed.

Care must be used in the digging, handling, and packing of potatoes, else in a short time dark spots appear on them, which injure their salability.

Clear up the garden, burn the rubbish, and sow in rye. By this means the weeds are prevented from growing and the land kept in good condition to receive the seed next Spring.

There are two very strong points in favor of burning the strawberry bed over in the Fall: First, the weed seeds are killed by the fire, and second, the potash which has been imprisoned in the weeds is given back to the soil to become food for the vines the coming season.

Seed should be saved from plants which show some peculiar merit, and from them only. Before the corn is gathered the farmer should go through the field and mark those stalks which bear many large ears, and keep them separate from the rest of the crop for seed next season.

A rotation of crops should be practiced, not only because the continued growth of one crop on the same land exhausts it, but because when land has been used for the same kind of plants for a long time it becomes unfit for that crop on account of the parasitic enemies which have taken up their abode on the land.

Brussels Sprouts.

There is quite a good demand in most of our markets for Brussels sprouts, and the prices paid for them makes their cultivation very profitable to the market gardener. The cultivation of this plant is very simple, and to grow a very fine article is not at all difficult. In the first place, it is necessary to have the ground very rich, and thorough cultivation must be given the plants from the start. With many of our vegetables two crops can be raised on the same ground at one time, but with Brussels sprouts this cannot be practiced with any assurance of success to the sprouts, as they generally are poorer in quality and of smaller size. Almost the same care is required for this plant as for the cabbage. The seed are sown in beds the same, and transplanted when they attain the proper size. They can stand far more cold than the cabbage and not be injured, but the drouth makes sad havoc in a field of them. They must be irrigated, or water may be given them by means of carts which can be taken through the field. The harvesting of them begins as soon as there is a scarcity of other vegetables in the market, and continues well into the Winter.

Marketing Grapes.

Careful handling and packing are all important in preparing grapes for market. To procure the best price, grapes should be packed in such a way as to reach the market in good condition. The basket most generally used now is the Climax. This basket is well adapted for shipping, as its shape is such as to allow large numbers to be packed in a small space. Pack grapes firmly in the basket; do not pile them up and then press them down, as this mashes many of them and they reach the consumer in bad condition. Neither should they be packed loosely, as they will then jolt and ruin during transportation. Baskets of many sizes are used for the different markets, but probably the best size is the eight pound for the Concord, and the five pound for the Delawares, Niagaras and other varieties.

Sort Before Selling.

The necessity of sorting before offering for sale can never be too forcibly impressed upon those who raise vegetables for the larger cities. Sorting is applicable to the potatoes raised by the farmer as well as to the more perishable articles raised by the truck farmer. Very often a half-bushel or even less of small potatoes mixed with the larger ones will injure their sale, reduce them to a lower grade, or otherwise inflict injury on the grower far in excess of the value of the small potatoes. Unsalable potatoes may be profitably fed, mixed with bran or shorts, to the cattle during the Winter.

FORMING A HERBARIUM.

Suggestions About Preparing and Mounting Such a Collection.

As is well known, a herbarium is a collection of pressed and dried plants, commonly of more interest to a person engaged in botanical pursuits than to others, though it may easily be made so attractive as to give pleasure to everyone. Having had a year's experience in the herbarium of a State university, I hope that a few popular suggestions in regard to the method of preparing and mounting such a collection may not come amiss, says *Harper's Young People.*

The first thing, of course, and the pleasantest, since it involves an outing, is to procure the specimens, and herein will appear one of the many advantages of being a country boy or girl, for such have abundant material close at hand.

To the enthusiastic collector no hill is too steep to climb, no wood too wild or path too tangled to explore, and consciously or unconsciously as he adds new plants to his herbarium he also adds images that, stored in the memory, are drawn forth in aftertime when turning over his treasures of wood and field, so that in looking at them he sees not only a plant as others sees it, but the whole setting of earth and air and sky. The deep, swift brook sings again for him, "the unregarding grasses sway," the shadows cast by the trees and shrubbery and pierced with light move back and forth in leafy patterns, the clouds sail slowly overhead. There is a pleasure in these memories that money cannot purchase. In his excursions the naturalist has learned to look and listen long and closely where nature's ways are wild, and has found one of the keenest and one of the most innocent enjoyments of life.

In the work of collecting, few implements are needed, and these may be readily procured. A tin box in which to place the specimens, a garden trowel, a knife, and a notebook will complete the outfit. The notebook is for the reception of such items as may seem of interest or value, and which cannot be trusted to the memory. The details of soil, moisture, and associated species may be recorded, and such notes should be perfectly accurate. Science is always exact. Nothing must be left to conjecture, and no loose methods must creep in.

A Philosopher.

Hungry Higgins—These here gravel roads is mighty tough on shoes.

Weary Watkins—Yes, that's so, but where there is good roads the people has money, and where people has money they ain't so many dogs.—*Indianapolis Journal.*